The Builder.

No. CXXVIII.

SATURDAY, JULY 19, 1845.

IN our number for the 5th of April last,* we alluded to the proposed restoration of that noblest of parish churches, —St. Mary Redcliffe, and stated the amount of subscriptions received, and the desire of the committee to proceed immediately with the works to the extent of their means. We also reported the proceedings of a meeting held in May, whereat it was resolved that the committee should make early application to each of the subscribers for permission to apply his donation to the repair of the fabric forthwith. Since then this has been done, and some of the too-necessary works are to be commenced directly, under the direction of Mr. Britton and Mr. George Godwin. Mr. Britton, it will be remembered, had originally associated with him in this very interesting undertaking, Professor Hosking; and by them conjointly, the report was made on which the committee have been acting up to this time. When the latter gentleman was made an Official Referee, he felt it necessary to resign this work, and, at his recommendation, aided by that of Mr. Britton, Mr. Godwin was appointed by the committee in his stead.

In the first volume of THE BUILDER (page 106), will be found two engravings, representing the interior and exterior of the church in question, as originally proposed to be restored. They will serve to convey to the reader who is not acquainted with the edifice some notion of its style and character, but they give no idea of its extraordinary beauty. The genius, skill, and fancy, which it displays, cannot be conveyed by any small pictorial representation.

The tower is perhaps as fine as any thing in the world, and needs a long study before it can be fitly appreciated. The north porch, with its unique doorway, the boldness and variety of the mouldings throughout, the beauty and skilful arrangement of the groining inside, —are some of the many points which arrest the attention of the examiner, and compel him to admit what a fine appreciation of the beautiful the architects of the middle-ages had. In the latter particular, the groining, St. Mary's is, perhaps, unrivalled for variety and richness. The bosses, too, display extraordinary fertility of imagination, and will repay careful examination; and, indeed, the same may be said of every part of the structure. Although exceedingly harmonious as a whole, it is the work of several eras. The inner north porch, for example, belongs to the beginning of the 13th century, the tower chiefly to the end of the same century or the beginning of the next, and the greater part of the body of the church to the 15th century, although we have ourselves little doubt that much of it was built considerably before that time.

The material of which the building is constructed is an oolitic lime-stone from Dundry, and from various causes is in a dreadful state of decomposition, and in parts, of danger. The parapets are falling and fallen, the outline of mouldings is fast disappearing, the crockets and finials of pinnacles are displaced by the wind, and the whole face of the stone is eroded to a considerable depth. There are, however, few forms at present, mouldings or sculptured ornaments, that could not be restored with truth; but every day will make the task more difficult, and *if left for any considerable portion of time it will become impossible.* One winter even, now that the stonework has reached its present state of disintegration, may do irreparable mischief. We need hardly say, therefore, that we in common with all who look with pride on the noble heir-looms received from our forefathers (*Templa quam dilecta!*) and are anxious that they should be religiously maintained, are well pleased to find that operations are to be commenced immediately. It is painful, however, to learn how small a sum, comparatively, has yet been provided for this noble purpose, namely, little more than 5,000*l.*, nearly half of which, if we remember rightly, is the produce of estates vested in the parish authorities for the repair and support of the church. If St. Mary Redcliffe were destroyed by fire or otherwise to-morrow, so justly proud of it are all the inhabitants not merely of Bristol but of the neighbouring counties, that we are satisfied subscriptions would flow in from all quarters for its perfect restoration. Why, in York, after the destruction of the Minster by fire in 1829, forty-eight thousand pounds were collected in two months! And no less enthusiasm would be displayed in Bristol, Somersetshire, Gloucestershire, indeed all England, were any such calamity to befal Redcliffe church.

But while it remains whole as they believe, they are not roused to any act of munificence. They forget that time (*edax rerum*), is more certain than the flames, and they hardly know that if left alone only a short time longer, the object of their boast will be but a shapeless heap of stones.

The Diocesan Society when applied to, will of course afford a considerable grant of money towards the object in view, and the parent Society in the metropolis will doubtless do so too, but the bulk of the sum required must come from individuals, and we urgently call on the public for their liberal co-operation.

In Bristol alone, where the annual accumulation of money is enormous, much more ought to be subscribed than is yet announced; in fact, we have little doubt that the moment the works are commenced in earnest, additional assistance will be afforded. St. Mary Redcliffe does not simply belong to Bristol, but to the whole world,—it is one of those records of the past that all have an interest in preserving, and from which all may derive advantage. It belongs to history, it belongs to poetry, it belongs to art; and it will be a national digrace if it be not immediately rescued from its present dangerous condition, and restored in the minutest respect.

We will not believe for a moment that funds can be wanting for such a purpose, but we call on the wealthy inhabitants of Bristol themselves, if they are not disposed to keep the whole credit of the restoration in their own hands, at all events to set a good example. If there had been any public board for the conservation of national monuments, this building would not have been *suffered* to fall into its present state.

A desire for restoration is at this time general in Europe, — Germany, Belgium, France, all are actively engaged in this important task. The last project of the sort in France, and one of great extent, is the restoration of the Metropolitan Church of Paris, Notre Dame,—which is found to require thorough repair and reinstatement, a repair that is to extend to all the works of art contained in it; monuments, cenotaphs, carvings, and coloured decorations. Messrs. Lassus and Viollet le Duc, the architects engaged to effect the restoration, have been empowered forthwith to direct such works to be done as may be necessary to preserve the structure from ruin, and application has been made to the chamber for a grant of 2,650,000 francs or 106,000*l.* sterling, with a statement that the repairs are not merely necessary, but most urgent. A commission was appointed to examine the nature of the works proposed, and there is very little doubt that when they send up their report, the required grant will be made.

At Cologne, the money required for the restoration of the cathedral is immense, still no one despairs; subscriptions daily come in, and the works progress. The town-halls throughout Belgium were in a dreadful state of dilapidation and called for a large expenditure; yet the money has been raised, and in several cases they are now satisfactorily completed. Surely then, as we before said, there can be no cause to fear for St. Mary Redcliffe. Once let the inhabitants of Bristol be convinced, that without interference on their part, restoration will be soon impossible, and we are quite satisfied they will come in munificently to the rescue. We appeal, however, in its favour to every lover of our ancient architecture in the United Kingdom.

* See page 157 *ante*.

ILLUSTRATIONS OF ARCHITECTURE FROM THE BRITISH MUSEUM.

THE PHIGALIAN MARBLES.

AMONG the most interesting remains of Grecian architecture, the marbles from the temple of Apollo Epicurius, at Bassæ, near Phigalia, hold a high place. They are not only interesting from their character and style of art, but as fragments of a singular edifice, contemporary with the Parthenon at Athens, and the work of the same architect. It is not an uncommon supposition, that the Grecian architects adopted one model, from which they made no very sensible deviations. But, although modern imitators have contributed to the prevalence of this opinion by adopting the same Ionic capital, or the same victor's wreath in all buildings, sacred or profane, the Greeks were an originating people, and did not restrict themselves to imitation in their architecture. It is true, that instead of trying a new experiment in every fresh building, they made use of the principles of their predecessors, which the voice of public taste had applauded; but they were not less strong in the endeavour to give each building the appearance of an original work; so that we find in all Grecian buildings, that general character of resemblance which is sufficient to mark them all of one style, a scrupulous attention to detail in points, many of which have only lately been discovered, and a marked difference in those details. In the temple under notice, we find some peculiarities, which are the more singular, as existing in a work of the architect Ictinus.

The notice which Pausanius gives of this temple in his "Description of Greece" adds greatly to its interest, as it leaves no doubt that it belonged to the age of Pericles. His words are "Phigalia too is surrounded with mountains; on the left hand by Cotylion, and on the right by the mountain Elaion. The mountain Cotylion is about forty stadia distant from the city. In it there is a place called Bassæ, and a temple of Apollo *the Helper*, the roof of which is of stone. This temple surpasses all the temples in Peloponesus except that which is in Tegea, for the beauty of the stone from which the roof is built, and the symmetry of its construction."—"Ictinus, the architect of the temple of Phigalia, was contemporary with Pericles, and built the Parthenon for the Athenians." The temple had

been visited by Sir W. Gell, when subsequently it was examined by Mr. Cockerell, along with Baron Haller and with Mr. J. Foster, now of Liverpool. These gentlemen discovered the existence of the sculpture, now preserved in the British Museum, and in 1812, a party was formed at Athens for the purpose of excavating, and delineating the precious works of art. The temple was found to consist of six columns in front, with a range of fifteen columns on each side, two more than in the temple of Theseus, and was 125 feet in length, and nearly 47 feet in breadth. It is considered to have been hypæthral. The external order is elevated upon three steps. The temple is peripteral, consisting of a peristyle, pronaos, naos or cella, a space between the naos and the opisthodomus, and the opisthodomus itself. The *space* is separated from the opisthodomus by a wall, which has no opening; but in the side wall there is a door into the peristyle, the use of which has occasioned some discussion. A similar door is found in the Temple of Theseus at Athens. The structure does not stand east and west, as most temples do, but nearly north and south. The Doric columns of the peristyle were 3 feet 7 inches in diameter, and 19 feet 6 inches in height. In the interior of the cella were very curious columns of the Ionic order, together with a single column of the Corinthian order, which, as it has been supposed, occupied the position opposite the entrance, being an almost isolated instance of a central column in Grecian architecture. There is one other example at Pœstum. This idea of the position of the column is, however, formed upon the assumption that the temple was hypæthral, which may not have been the case, and upon the fact that the space would scarcely allow of two columns. The frieze would thus range round the four sides of the cella, being common to both orders, and it is an argument for the temple's being hypæthral, that otherwise the sculpture would receive no light. The Ionic columns project from the walls in a very singular manner, being attached to the ends of short walls, and are three-quarters of a circle in plan. Two of these walls, at the further end, join the wall of the cella obliquely, for what reason does not seem clear. Engaged columns were not usually employed in Grecian architecture, but are found in the Erectheum, and the Temple of the Giants, at Agrigentum. The capitals and bases of the columns are very singular, so much so as to have led many to suppose, that they were of a later date than other parts of the fabric. It is rather difficult to describe them, but a fragment of one of the capitals is in the collection, shewing that the volutes were joined at a right angle, the capital facing all ways; an extension of the idea of the angular capital in the temple on the Ilissus, and in those of Minerva Polias, and Erectheus. The continuous moulding of the volutes rose in a slight curvature from one volute to the other, and had not the usual abacus. The eye of the volute was a separate piece, it was, however, of stone, and not of any other material, as might be supposed, and was fastened into the socket by a plug. In the fragment, one of these balls is wanting. The base is not less singular. The small segment, forming the union between the shaft and base, is here expanded into a large curve, so that the bases have great projection. The bases hemselves have for their principal moulding a large scotia, the section of the whole being not unlike that of the moulding, immediately below the base of the order in the monument of Lysicrates. The flutes are more like those of the Doric than of the Ionic order, being of slight depth; they have narrow fillets between, as sometimes seen in the Doric. It is to be regretted, that the museum possesses no other fragment of this singular order than the small one above alluded to, which includes a portion of the flutes. The Corinthian capital is a still greater loss, as the examples of that order of Grecian origin are few:—it has now disappeared from the ruins, but a capital bearing close resemblance to this one, was found on the Acropolis of Athens by Mr. Inwood, and is now in the collection of that gentleman. The discovery of two capitals of similar description in these particular localities, is a circumstance of some interest, leading us to the inference, that they were both designed by Ictinus. That at Phigalia was much mutilated, but shewed a lower range of caulicoli, as in the monument of Lysicrates. The other *architectural* fragments are, one of a Doric capital of one of the columns of the peristyle, fragments of tiles, an antefixa of beautiful design, and the corresponding ornament at the ridge, besides fragments of the metopes, from the porticos of the pronaos and posticus. These parts of the building were not usually ornamented with triglyphs, but were so in the building under notice. It seems to us, that Pausanius, in speaking of the beauty of the roof of this temple, referred to the lacunaria, of which six different varieties were discovered, and figured in the description of the temple by Mr. Donaldson, which forms part of the supplementary volume of Stuart's "Athens." They were all beautiful, and two varieties were arranged in diamond forms. The ornament of the crowning cyma of the pediment is engraved in the title-page of the fourth part of the description of the Museum marbles; it was of beautiful design, similar to that of the Erectheum, and may be considered to shew an advance upon the painted ornament of the Parthenon. In accordance with the Grecian principle, the cyma was not continued along the flanks, its position being occupied by the antefixæ.

The really valuable portion of the Phigalian marbles is the frieze. When discovered, it was much broken, and the uniting of the several pieces was a work of extreme difficulty, at last accomplished by Mr., now Sir Richard Westmacott. It occupied the position, above the Ionic columns of the interior, about 22½ feet from the floor, and was attached to the wall by pins, the holes of which may still be observed. These pins are considered by Mr. Taylor Combe, the author of the description of the Museum marbles, to have been of lead, similar pins being used in the fixing of friezes of terra cotta. The positions of the slabs are almost a matter of conjecture, though evidently some of them followed in the order, in which they are now ranged. The subject of eleven of the slabs is, that which was so fertile a theme for Grecian sculptors, the combat of the Centaurs and Lapithæ; and that on twelve of the slabs, is the battle of the Greeks and Amazons. The direction of the slabs, belonging to the former subject, was from right to left; that of the latter, from left to right. The frieze of the Parthenon is in low relief, representing the Panathenaic procession in honour of Minerva, and is wonderfully accurate in anatomy, and the proportions of parts. But the Phigalian frieze, though not in every respect correct, as to the several parts of legs and arms, exhibits a marvellous spirit and energy. Some of the figures are almost detached from the background, and the whole are in violent action; the Centaurs are hurling rocks at their opponents, and everywhere the ardour of strife prevails amidst the dead and dying.

The marbles were purchased at Zante, in 1814, for the sum of 60,000 dollars, rather above 15,000*l.*, which had been previously offered for them by Mr. Legh, one of the discoverers, and they are now hardly inferior in value to those other works of the age of Pericles with which they were in origin so intimately connected, and along with which, they are now united under one roof. E. H.

THE FUTURE ARRANGEMENT OF THE XANTHIAN MARBLES.

Since our former notice of these interesting fragments,* the question of their future arrangement, in the building now in progress, has become a subject of consideration. In consequence, a model has been prepared, we believe by Sir Richard Westmacott, shewing a proposed arrangement, and we have heard, that Sir Charles Fellowes is about to prepare another. The former model is now in the central saloon of the Museum. Taking the door to be the same size as that of the Elgin room, 7 feet wide, we may venture to consider the scale of the model, one inch to the foot. This makes the proposed room 73 feet long, 40 feet wide, and 30 feet high. It is lighted by a range of long windows, immediately under the ceiling; the walls are shewn of a light red granite, about three feet in height from the floor, being left for scagliola in imitation of Sienna marble. This leaves the lower part of the wall entirely free, except at the ends of the room.

* Vide p. 301. *ante.*

On the walls are various bas-reliefs, many of them not yet unpacked; and the end of the room opposite the entrance is occupied by the fragments of the monument, erected to commemorate the conquest of Xanthus by Harpagus, previously described. They are arranged in the same positions, as they occupied in the building, with the exception of the pediments, and some of the figures from the intercolumns, which are necessarily placed on the floor of the room. The lower range of bas-reliefs also, is placed too high, and we would much rather see it occupying its original position. The centre of the room is occupied by two immense tombs of the kind, which Sir Charles Fellowes has likened to Gothic works. They precisely resemble each other, being only turned different ways, so that we don't understand why there should be two of them. They stand on pedestals having a pannel at the end, and a simple cornice of fascia, enriched ovolo, and fillet. Above this pedestal are bas-reliefs, apparently of good character, and above this a curious arrangement of pannels, and projections very much resembling timber construction, and the projections much reminding us of the halving of the wall plates at the angles of a roof. There are also some projections in the form of hooks, or rather like the catch which receives the latch of a common door.* The roof is in the form of a Gothic arch, and with its ridge, resembles the bottom of a vessel upset. The "pediment" at the ends has mutules, which are not found in the pediments of Grecian buildings. Two lions' heads project on each side from the curve of the roof. Nearer to the door of the room, is the "Harpy Tomb," and on each side the door are examples of the two other varieties of monuments, which bear so strong resemblance to the dwellings of the present inhabitants of Asia Minor.

We trust, that the increased accommodation in the new buildings will allow of the better arrangement of many parts of the collection, which have long needed it—the architectural casts for example. We wish we could see any reason to hope for some provision for *national* antiquities, which are as deserving of attention as those of Greece or Rome, and are to be had for a small fraction of the expense. E. H.

THE (LINNEAN) SYSTEMATISING OF THE STREETS OF LONDON.

BY J. L——Y.

"It leads us to look onward, through the long vista of time, with chastened but confident assurance, that science has still other (!) and nobler work (!!) to do, than any she has yet attempted."—*Sir John Herschel's address to British Association*, 1845.

If the men of the present age have taken great deal of trouble in systematising gnats, beetles, and all sorts of vermin—it can, notwithstanding, not be said, that they have bestowed equal care on any thing connected with *public utility*, objects more grand, sublime, worthy. And as we would be inclined thinking bad of any gentleman, whose gloves even, for instance, were constantly soiled or otherwise disorderly, the complete chaos in which the huge network of our streets is remaining, leaves ample room for an analogous conclusion as to the whole of our *civic* arrangements. It is, however, one of the standing and periodically returning *items* of our periodicals, to dilate on the number of streets, going by the *generic* of King's or Queen's, the scores which are named after Charles (either I. or II), and so on. There our perodicals have stopped—and, therefore, rather deserve the stygma, which has been cast, at least, upon *one* of them, viz. "finding fault with *every* thing, without stating *any* thing to be done in lieu thereof." Besides a most confusing and perplex *synonymy*, the very nomenclature of many streets is *erroneous* and unsystematical—in as much as

1st. Two *opposite* rows of houses of the same street bear *different* names; for instance, Cambridge-terrace and Oxford-terrace, and many other (even better) examples.

* A peculiar projection of similar description was noticed by Mr. Stephens in the buildings of Mexico. May it not have assisted to support an awning, stretched at the side of the tomb, when the relatives visited the grave of the deceased? The blocks which we sometimes find projecting immediately below the eaves of a Gothic church, those which evidently answered a constructive purpose, we might have some difficulty in understanding, did we not know how frequently a chapel was attached to the church, of which all other trace has since disappeared. In such a case the blocks are the only evidence, but a certain one, of the roof, which rested upon them,

2nd. Streets of an immense extent have no sub-division into upper (middle) and lower—for instance Oxford-street; while many others much minor have.

3rd. Streets quite contiguous and straight, are broken up by names different; so for instance John-street may end into Prince-street, and the like.

4th. The labelling of squares, streets &c., is most defective, and there are some large squares which are not labelled at all.

5th. The numbering of the houses is at a par with the above, as many houses have no numbers at all, the same number occurring twice in the same street.

It would be matter of supererogation to *dilate* on the inconvenience, confusion, and unbusiness-like aspect, which result from this state of things. Besides, any such (palpable) anomaly augurs bad for every other civic or social item of our huge metropolitan system; and what we wish is, that men should arrive (by-and-by—but not *too slow*) at a certain tidy, reasonable, business-like condition in this and every other respect. It cannot be denied, however, that since our present *reign*, things are beginning to look very differently, from what they did at any period of English (or other) history; and as we are just in a *numerative* mood, we will resume by stating, that

1st. Now-a-days there is scarcely a man of eminence in any department of science or art (or even literature), who is not consulted, employed and paid by Government; for instance, H. Hallam, Dr. Owen, Faraday, &c.

2nd. That last year only, Government have expended 5,839*l.* in experiments, scientific and otherwise.

What is not to be expected under similar propitious circumstances! But we shall vary the point of a mere encomiast, by saying, that whilst it is very laudable to drag for instance "the depth of the Ægean sea," still the old homely proverb: "charity (justice) begins at home," should not be left unheeded. We consequently hope, that our Governmental or civic authorities should not begrudge the granting a commission, or an adequate prize, for *the systematising and regulating the nomenclature, and the proper labelling of the streets of London* (and other large cities). In Paris it required a *revolution* to do all that, at least to a certain degree — but we hope that John Bull will do *the same*, without requiring such a strong extraneous *excitement*. This is our hope and trust throughout: "that we shall have a *revulsion* of affairs without a *revolution*."

This, however, is after all not the report of a commission —*nor even* a prize essay. We may, therefore merely throw out the following brief remarks:—

1st. It would be required, that all (what we call) *generic* street appellations of King, Queen, Charles, John, &c., should disappear. They mean absolutely *nothing*, as they apply, at present, to nobody at all. If their be any *historical* incident, which might have given to a certain (say Charles or other) street its name, this might be preserved, but no more. In so doing, a great number of *vacancies* would occur, for which there are, indeed, a great many candidates. Should any one believe, that while the Parisians *have* still a street of Jean Jacques Rousseau, Condorcet, Chaptal, &c. — we have none called after Jenner, Cabot, Chaucer, Herschel, Handel, &c. National recognition, even in that way, would excite national emulation—and thus, the *material* result would cease as it were, to make room for one of a more exalted character. We need hardly to add, that such an undertaking would require not only the aid of historical, but far more the *surveyor's* knowledge, as in many streets (especially the small and crooked ones) there is at present no *system* of appellation—none knows or can know, where a street begins or ceases, which all ought to be determined after certain laid-down rules and system. In fact, we have in our *mind's* eye, a certain tidy, complete, business-like consummation of this undertaking—as we are a great enemy of all cobbling and botching.

Nomenclature, however, is only part of that metropolitan *systematization* which we propose, and which would avail but little, if the present wretched, beggarly, and jobbing way of *labelling* the streets were to be persevered in. These labels are really a disgrace to the (*materially*) first city of the world. Some are large, others small, some in one sort of *type*, and others in another, some at such a height, and some at another, and there is a *new*-fangled sort with moveable letters, of which, however, many have faded or fallen out, and look like the defective teeth-work of an old woman. We, however, propose (as we always do), that a uniform, solid, sterling, decorous, and ornamentive way of labelling the streets should be adopted. Having (albeit timidly) alluded to *jobbing*, we believe, that in most of our civic expenditure, there is too little regard paid to the humble and poor rate-payer. Paving is done most *futilely* and wretchedly, labelling in the same way—because such expenses increase the rate *only* by one penny or so in the pound; while none seems to think, that it is the last half ounce which *breaks* the back of the camel, and that that *job* which gives A, B, C, some employment, sends D, E, F, to the poorhouse—in fact, a mere repetition of our *seven and a half* per cent. parable, mentioned in previous essays. Solid, sterling, business-like work is, therefore—as every honest and candid man knows—always the most economical. And thus we propose a labelling of the streets which may last a century, or a couple of centuries—and *we* also, like Lord Stanley, say, that we don't want to *legislate* for any longer time.

Having, however, called our systematization, a *Linnean* one, we have to apply this principle to our present purpose. The labelling, as well as the proper naming of streets, will require a division of the metropolis—

1st. Into certain localities according to their architectural and other respectability—say divisions *A. B. C.*—"Belgrave-square" and such like—"Soho-square" and such like—"St. Giles," and other such crowded and poor localities. This would form, say, the *generics*. But it is to be borne in mind, that in any, say *A.* (Belgrave-square) locality, there are streets of different size and architectural or other importance. We, therefore, distinguish in every of our *A. B. C.* localities, three *species* of streets (or better, *aggregates* of houses), which we shall mark 1, 2, 3. Thus, for instance, Belgrave-square would stand *A.* 1. in our proposed systematisation—meaning that it is a *first*-rate street (*aggregate*), in a *first*-rate locality; West-street, Petticoat-lane would be *C.* 3, meaning a third-rate aggregate in a third-rate locality, etc. And now we have to state, that this (simple be it) systematization will materially assist, as well the nomenclature as the proper labelling of the aggregates. For instance, the following rule (law) would result therefrom: If any No. 1. street is transected by another No. 1. street (no matter which locality), both *retain* the *same* name after having crossed each other. Such is the case with Regent and Oxford-streets. But if *any* (1. 2. 3.) street is transected by one which changes its character after the transsection—becomes 2. or 3., from having been 1.; then the name ought to be necessarily changed, and the *major* to *retain* its name, if other causes should not militate against it (for instance it being a generic name). A further detail and exemplification would be displaced here.

The above systematization would also greatly assist the labelling of the streets. This, we propose, should be done in a solid, sterling, showy manner. We propose it to be of the hardest and toughest China or the like possible—*azure* letters on *white* ground. But it would be wrong (in many respects), to have the same *sized* labels in an *A.* 1. aggregate, as in one *C.* 3., viz.; in Belgrave-square and in West-street, Leather-lane. We propose, therefore *three* different *sizes** of labels—thus. The names of the aggregates should be composed of oblong *movable* type (letters) of the above material, which could be manufactured wholesale, and then *composed* accordingly, encased in a (solid) brass frame, and then the back part filled out with some imperishable (hard and tough) cement; so much so, that every label should present a solid block of a certain size (according to the *A. B. C.* localities); most solid, we repeat, and not to be injured but by the mainest force. But it would be very wrong to charge the *C.* 3. rate-payers with the same amount as those of *A.* 1. or the like. We, therefore, further propose, that the price, which a *C.* 3. label would cost, should be first ascertained, which we think would be 2*l.*, made in such considerable quantities. A label of *B.* should be charged 4*l.* — and an *A.* one 6*l.* This were to be the general calculation. But, as a *B.* label would *not* cost the double of a *C.* one, and an *A.* label for less, the triple of a *C.* label — the *C.* label price of 2*l.*, would be only a *fictitious* one, resembling (somewhat) the 149*l.* item of the income tax. In fact, it would then be, as it ought to be, *everywhere*—the *same* "*public*" *accommodation* would be afforded to the *public;* but the man who has 7*s.* a week and he who has 7,000*l.* a week, would pay *differently* for it. Without the application of such a *principle*, *nothing* of any sterling nature can be accomplished; for which stating we have the high authority of the *Premier*, who said in the debate on the income tax: "the humbler classes cannot be taxed to any further extent."

No *sterling* work, however, of any kind can be ever effected, if it is made a *job* for any one. Thus, if our (Linnean) labels were to fade, break, split, exfoliate, melt (!), and all the like—it would only lead to the (accessory) conviction, that now-a-days no public *work* can ever be done *workmanlike*, and that all and every thing of the kind is merely done to put money in the pockets of a few favoured persons. It behoves us, therefore, to state briefly, how a (*sad*) repetition of that drama or farce is to be avoided. Our favourite system of super-revision (a *system* of revision) would have again to come into play. The *patterns* of the type or letters ought to be first produced by the persons tendering for the contract, and be subjected to a commission, of which men beyond all suspicion should be members—for instance Prof. Faraday, Brande, Dr. Ure, &c., &c. The ultimate *contract* of the accepted tender should be drawn out by a legal person, also beyond suspicion—and the material then received *not* in a whole lump, but in such quantities as they can be most conveniently fabricated.

In fact, every precaution ought to be taken, that the letters do not turn out to be made of gingerbread or pipeclay. Similar *deep* precautions ought to be taken with respect of the brass (or other) cases, forms; the cement, the filling-up—the placing in the walls.*

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been visited by Sir W. Gell, when subsequently it was examined by Mr. Cockerell, along with Baron Haller and with Mr. J. Foster, now of Liverpool. These gentlemen discovered the existence of the sculpture, now preserved in the British Museum, and in 1812, a party was formed at Athens for the purpose of excavating, and delineating the precious works of art. The temple was found to consist of six columns in front, with a range of fifteen columns on each side, two more than in the temple of Theseus, and was 125 feet in length, and nearly 47 feet in breadth. It is considered to have been hypæthral. The external order is elevated upon three steps. The temple is peripteral, consisting of a peristyle, pronaos, naos or cella, a space between the naos and the opisthodomus, and the opisthodomus itself. The *space* is separated from the opisthodomus by a wall, which has no opening; but in the side wall there is a door into the peristyle, the use of which has occasioned some discussion. A similar door is found in the Temple of Theseus at Athens. The structure does not stand east and west, as most temples do, but nearly north and south. The Doric columns of the peristyle were 3 feet 7 inches in diameter, and 19 feet 6 inches in height. In the interior of the cella were very curious columns of the Ionic order, together with a single column of the Corinthian order, which, as it has been supposed, occupied the position opposite the entrance, being an almost isolated instance of a central column in Grecian architecture. There is one other example at Pœstum. This idea of the position of the column is, however, formed upon the assumption that the temple was hypœthral, which may not have been the case, and upon the fact that the space would scarcely allow of two columns. The frieze would thus range round the four sides of the cella, being common to both orders, and it is an argument for the temple's being hypœthral, that otherwise the sculpture would receive no light. The Ionic columns project from the walls in a very singular manner, being attached to the ends of short walls, and are three-quarters of a circle in plan. Two of these walls, at the further end, join the wall of the cella obliquely, for what reason does not seem clear. Engaged columns were not usually employed in Grecian architecture, but are found in the Erectheum, and the Temple of the Giants, at Agrigentum. The capitals and bases of the columns are very singular, so much so as to have led many to suppose, that they were of a later date than other parts of the fabric. It is rather difficult to describe them, but a fragment of one of the capitals is in the collection, shewing that the volutes were joined at a right angle, the capital facing all ways; an extension of the idea of the angular capital in the temple on the Ilissus, and in those of Minerva Polias, and Erectheus. The continuous moulding of the volutes rose in a slight curvature from one volute to the other, and had not the usual abacus. The eye of the volute was a separate piece, it was, however, of stone, and not of any other material, as might be supposed, and was fastened into the socket by a plug. In the fragment, one of these balls is wanting. The base is not less singular. The small segment, forming the union between the shaft and base, is here expanded into a large curve, so that the bases have great projection. The bases hemselves have for their principal moulding a large scotia, the section of the whole being not unlike that of the moulding, immediately below the base of the order in the monument of Lysicrates. The flutes are more like those of the Doric than of the Ionic order, being of slight depth; they have narrow fillets between, as sometimes seen in the Doric. It is to be regretted, that the museum possesses no other fragment of this singular order than the small one above alluded to, which includes a portion of the flutes. The Corinthian capital is a still greater loss, as the examples of that order of Grecian origin are few:—it has now disappeared from the ruins, but a capital bearing close resemblance to this one, was found on the Acropolis of Athens by Mr. Inwood, and is now in the collection of that gentleman. The discovery of two capitals of similar description in these particular localities, is a circumstance of some interest, leading us to the inference, that they were both designed by Ictinus. That at Phigalia was much mutilated, but shewed a lower range of caulicoli, as in the monument of Lysicrates. The other *architectural* fragments are, one of a Doric capital of one of the columns of the peristyle, fragments of tiles, an antefixa of beautiful design, and the corresponding ornament at the ridge, besides fragments of the metopes, from the porticos of the pronaos and posticus. These parts of the building were not usually ornamented with triglyphs, but were so in the building under notice. It seems to us, that Pausanius, in speaking of the beauty of the roof of this temple, referred to the lacunaria, of which six different varieties were discovered, and figured in the description of the temple by Mr. Donaldson, which forms part of the supplementary volume of Stuart's "Athens." They were all beautiful, and two varieties were arranged in diamond forms. The ornament of the crowning cyma of the pediment is engraved in the title-page of the fourth part of the description of the Museum marbles; it was of beautiful design, similar to that of the Erectheum, and may be considered to shew an advance upon the painted ornament of the Parthenon. In accordance with the Grecian principle, the cyma was not continued along the flanks, its position being occupied by the antefixæ.

The really valuable portion of the Phigalian marbles is the frieze. When discovered, it was much broken, and the uniting of the several pieces was a work of extreme difficulty, at last accomplished by Mr., now Sir Richard Westmacott. It occupied the position, above the Ionic columns of the interior, about 22½ feet from the floor, and was attached to the wall by pins, the holes of which may still be observed. These pins are considered by Mr. Taylor Combe, the author of the description of the Museum marbles, to have been of lead, similar pins being used in the fixing of friezes of terra cotta. The positions of the slabs are almost a matter of conjecture, though evidently some of them followed in the order, in which they are now ranged. The subject of eleven of the slabs is, that which was so fertile a theme for Grecian sculptors, the combat of the Centaurs and Lapithæ; and that on twelve of the slabs, is the battle of the Greeks and Amazons. The direction of the slabs, belonging to the former subject, was from right to left; that of the latter, from left to right. The frieze of the Parthenon is in low relief, representing the Panathenaic procession in honour of Minerva, and is wonderfully accurate in anatomy, and the proportions of parts. But the Phigalian frieze, though not in every respect correct, as to the several parts of legs and arms, exhibits a marvellous spirit and energy. Some of the figures are almost detached from the background, and the whole are in violent action; the Centaurs are hurling rocks at their opponents, and everywhere the ardour of strife prevails amidst the dead and dying.

The marbles were purchased at Zante, in 1814, for the sum of 60,000 dollars, rather above 15,000*l.*, which had been previously offered for them by Mr. Legh, one of the discoverers, and they are now hardly inferior in value to those other works of the age of Pericles with which they were in origin so intimately connected, and along with which, they are now united under one roof. E. H.

THE FUTURE ARRANGEMENT OF THE XANTHIAN MARBLES.

Since our former notice of these interesting fragments,* the question of their future arrangement, in the building now in progress, has become a subject of consideration. In consequence, a model has been prepared, we believe by Sir Richard Westmacott, shewing a proposed arrangement, and we have heard, that Sir Charles Fellowes is about to prepare another. The former model is now in the central saloon of the Museum. Taking the door to be the same size as that of the Elgin room, 7 feet wide, we may venture to consider the scale of the model, one inch to the foot. This makes the proposed room 73 feet long, 40 feet wide, and 30 feet high. It is lighted by a range of long windows, immediately under the ceiling; the walls are shewn of a light red granite, about three feet in height from the floor, being left for scagliola in imitation of Sienna marble. This leaves the lower part of the wall entirely free, except at the ends of the room.

On the walls are various bas-reliefs, many of them not yet unpacked; and the end of the room opposite the entrance is occupied by the fragments of the monument, erected to commemorate the conquest of Xanthus by Harpagus, previously described. They are arranged in the same positions, as they occupied in the building, with the exception of the pediments, and some of the figures from the intercolumns, which are necessarily placed on the floor of the room. The lower range of bas-reliefs also, is placed too high, and we would much rather see it occupying its original position. The centre of the room is occupied by two immense tombs of the kind, which Sir Charles Fellowes has likened to Gothic works. They precisely resemble each other, being only turned different ways, so that we don't understand why there should be two of them. They stand on pedestals having a pannel at the end, and a simple cornice of fascia, enriched ovolo, and fillet. Above this pedestal are bas-reliefs, apparently of good character, and above this a curious arrangement of pannels, and projections very much resembling timber construction, and the projections much reminding us of the halving of the wall plates at the angles of a roof. There are also some projections in the form of hooks, or rather like the catch which receives the latch of a common door.* The roof is in the form of a Gothic arch, and with its ridge, resembles the bottom of a vessel upset. The "pediment" at the ends has mutules, which are not found in the pediments of Grecian buildings. Two lions' heads project on each side from the curve of the roof. Nearer to the door of the room, is the "Harpy Tomb," and on each side the door are examples of the two other varieties of monuments, which bear so strong resemblance to the dwellings of the present inhabitants of Asia Minor.

We trust, that the increased accommodation in the new buildings will allow of the better arrangement of many parts of the collection, which have long needed it—the architectural casts for example. We wish we could see any reason to hope for some provision for *national* antiquities, which are as deserving of attention as those of Greece or Rome, and are to be had for a small fraction of the expense. E. H.

* Vide p. 301. *ante*.

THE (LINNEAN) SYSTEMATISING OF THE STREETS OF LONDON.

BY J. L——Y.

"It leads us to look onward, through the long vista of time, with chastened but confident assurance, that science has still other (!) and nobler work (!!) to do, than any she has yet attempted."—*Sir John Herschel's address to British Association*, 1845.

If the men of the present age have taken great deal of trouble in systematising gnats, beetles, and all sorts of vermin—it can, notwithstanding, not be said, that they have bestowed equal care on any thing connected with *public utility*, objects more grand, sublime, worthy. And as we would be inclined thinking bad of any gentleman, whose gloves even, for instance, were constantly soiled or otherwise disorderly, the complete chaos in which the huge network of our streets is remaining, leaves ample room for an analogous conclusion as to the whole of our *civic* arrangements. It is, however, one of the standing and periodically returning *items* of our periodicals, to dilate on the number of streets, going by the *generic* of King's or Queen's, the scores which are named after Charles (either I. or II), and so on. There our perodicals have stopped—and, therefore, rather deserve the stygma, which has been cast, at least, upon *one* of them, viz. "finding fault with *every* thing, without stating *any* thing to be done in lieu thereof." Besides a most confusing and perplex *synonymy*, the very nomenclature of many streets is *erroneous* and unsystematical—in as much as

1st. Two *opposite* rows of houses of the same street bear *different* names; for instance, Cambridge-terrace and Oxford-terrace, and many other (even better) examples.

* A peculiar projection of similar description was noticed by Mr. Stephens in the buildings of Mexico. May it not have assisted to support an awning, stretched at the side of the tomb, when the relatives visited the grave of the deceased? The blocks which we sometimes find projecting immediately below the eaves of a Gothic church, those which evidently answered a constructive purpose, we might have some difficulty in understanding, did we not know how frequently a chapel was attached to the church, of which all other trace has since disappeared. In such a case the blocks are the only evidence, but a certain one, of the roof, which rested upon them.

2nd. Streets of an immense extent have no sub-division into upper (middle) and lower—for instance Oxford-street; while many others much minor have.

3rd. Streets quite contiguous and straight, are broken up by names different; so for instance John-street may end into Prince-street, and the like.

4th. The labelling of squares, streets &c., is most defective, and there are some large squares which are not labelled at all.

5th. The numbering of the houses is at a par with the above, as many houses have no numbers at all, the same number occurring twice in the same street.

It would be matter of supererogation to *dilate* on the inconvenience, confusion, and unbusiness-like aspect, which result from this state of things. Besides, any such (palpable) anomaly augurs bad for every other civic or social item of our huge metropolitan system; and what we wish is, that men should arrive (by-and-by—but not *too slow*) at a certain tidy, reasonable, business-like condition in this and every other respect. It cannot be denied, however, that since our present *reign*, things are beginning to look very differently, from what they did at any period of English (or other) history; and as we are just in a *numerative* mood, we will resume by stating, that

1st. Now-a-days there is scarcely a man of eminence in any department of science or art (or even literature), who is not consulted, employed and paid by Government; for instance, H. Hallam, Dr. Owen, Faraday, &c.

2nd. That last year only, Government have expended 5,839*l.* in experiments, scientific and otherwise.

What is not to be expected under similar propitious circumstances! But we shall vary the point of a mere encomiast, by saying, that whilst it is very laudable to drag for instance "the depth of the Ægean sea," still the old homely proverb: "charity (justice) begins at home," should not be left unheeded. We consequently hope, that our Governmental or civic authorities should not begrudge the granting a commission, or an adequate prize, for *the systematising and regulating the nomenclature, and the proper labelling of the streets of London* (and other large cities). In Paris it required a *revolution* to do all that, at least to a certain degree — but we hope that John Bull will do *the same*, without requiring such a strong extraneous *excitement*. This is our hope and trust throughout: "that we shall have a *revulsion* of affairs without a *revolution*."

This, however, is after all not the report of a commission —*nor even* a prize essay. We may, therefore merely throw out the following brief remarks:—

1st. It would be required, that all (what we call) *generic* street appellations of King, Queen, Charles, John, &c., should disappear. They mean absolutely *nothing*, as they apply, at present, to nobody at all. If their be any *historical* incident, which might have given to a certain (say Charles or other) street its name, this might be preserved, but no more. In so doing, a great number of *vacancies* would occur, for which there are, indeed, a great many candidates. Should any one believe, that while the Parisians *have* still a street of Jean Jacques Rousseau, Condorcet, Chaptal, &c. — we have none called after Jenner, Cabot, Chaucer, Herschel, Handel, &c. National recognition, even in that way, would excite national emulation—and thus, the *material* result would cease as it were, to make room for one of a more exalted character. We need hardly to add, that such an undertaking would require not only the aid of historical, but far more the *surveyor's* knowledge, as in many streets (especially the small and crooked ones) there is at present no *system* of appellation—none knows or can know, where a street begins or ceases, which all ought to be determined after certain laid-down rules and system. In fact, we have in our *mind's* eye, a certain tidy, complete, business-like consummation of this undertaking—as we are a great enemy of all cobbling and botching.

Nomenclature, however, is only part of that metropolitan *systematization* which we propose, and which would avail but little, if the present wretched, beggarly, and jobbing way of *labelling* the streets were to be persevered in. These labels are really a disgrace to the (*materially*) first city of the world. Some are large, others small, some in one sort of *type*, and others in another, some at such a height, and some at another, and there is a *new*-fangled sort with moveable letters, of which, however, many have faded or fallen out, and look like the defective teeth-work of an old woman. We, however, propose (as we always do), that a uniform, solid, sterling, decorous, and ornamentive way of labelling the streets should be adopted. Having (albeit timidly) alluded to *jobbing*, we believe, that in most of our civic expenditure, there is too little regard paid to the humble and poor rate-payer. Paving is done most *futilely* and wretchedly, labelling in the same way—because such expenses increase the rate *only* by one penny or so in the pound; while none seems to think, that it is the last half ounce which *breaks* the back of the camel, and that that *job* which gives A, B, C, some employment, sends D, E, F, to the poorhouse—in fact, a mere repetition of our *seven and a half* per cent. parable, mentioned in previous essays. Solid, sterling, business-like work is, therefore—as every honest and candid man knows—always the most economical. And thus we propose a labelling of the streets which may last a century, or a couple of centuries—and *we* also, like Lord Stanley, say, that we don't want to *legislate* for any longer time.

Having, however, called our systematization, a *Linnean* one, we have to apply this principle to our present purpose. The labelling, as well as the proper naming of streets, will require a division of the metropolis—

1st. Into certain localities according to their architectural and other respectability—say divisions *A. B. C.*—"Belgrave-square" and such like—"Soho-square" and such like—"St. Giles," and other such crowded and poor localities. This would form, say, the *generics*. But it is to be borne in mind, that in any, say *A.* (Belgrave-square) locality, there are streets of different size and architectural or other importance. We, therefore, distinguish in every of our *A. B. C.* localities, three *species* of streets (or better, *aggregates* of houses), which we shall mark 1, 2, 3. Thus, for instance, Belgrave-square would stand *A.* 1. in our proposed systematisation—meaning that it is a *first*-rate street (*aggregate*), in a *first*-rate locality; West-street, Petticoat-lane would be *C.* 3, meaning a third-rate aggregate in a third-rate locality, etc. And now we have to state, that this (simple be it) systematization will materially assist, as well the nomenclature as the proper labelling of the aggregates. For instance, the following rule (law) would result therefrom: If any No. 1. street is transected by another No. 1. street (no matter which locality), both *retain* the *same* name after having crossed each other. Such is the case with Regent and Oxford-streets. But if *any* (1. 2. 3.) street is transected by one which changes its character after the transsection—becomes 2. or 3., from having been 1.; then the name ought to be necessarily changed, and the *major* to *retain* its name, if other causes should not militate against it (for instance it being a generic name). A further detail and exemplification would be displaced here.

The above systematization would also greatly assist the labelling of the streets. This, we propose, should be done in a solid, sterling, showy manner. We propose it to be of the hardest and toughest China or the like possible—*azure* letters on *white* ground. But it would be wrong (in many respects), to have the same *sized* labels in an A. 1. aggregate, as in one *C.* 3., viz.; in Belgrave-square and in West-street, Leather-lane. We propose, therefore *three* different *sizes** of labels—thus. The names of the aggregates should be composed of oblong *movable* type (letters) of the above material, which could be manufactured wholesale, and then *composed* accordingly, encased in a (solid) brass frame, and then the back part filled out with some imperishable (hard and tough) cement; so much so, that every label should present a solid block of a certain size (according to the *A. B. C.* localities); most solid, we repeat, and not to be injured but by the mainest force. But it would be very wrong to charge the *C.* 3. rate-payers with the same amount as those of *A.* 1. or the like. We, therefore, further propose, that the price, which a *C.* 3. label would cost, should be first ascertained, which we think would be 2*l.*, made in such considerable quantities. A label of *B.* should be charged 4*l.*—and an *A.* one 6*l.* This were to be the general calculation. But, as a *B.* label would *not* cost the double of a *C.* one, and an *A.* label for less, the triple of a *C.* label—the *C.* label price of 2*l.*, would be only a *fictitious* one, resembling (somewhat) the 149*l.* item of the income tax. In fact, it would then be, as it ought to be, *everywhere*—the *same* "*public*" *accommodation* would be afforded to the *public*; but the man who has 7*s.* a week and he who has 7,000*l.* a week, would pay *differently* for it. Without the application of such a *principle*, *nothing* of any sterling nature can be accomplished; for which stating we have the high authority of the *Premier*, who said in the debate on the income tax: "the humbler classes cannot be taxed to any further extent."

No *sterling* work, however, of any kind can be ever effected, if it is made a *job* for any one. Thus, if our (Linnean) labels were to *fade*, break, split, exfoliate, melt (!), and all the like—it would only lead to the (accessory) conviction, that now-a-days no public *work* can ever be done *workmanlike*, and that all and every thing of the kind is merely done to put money in the pockets of a few favoured persons. It behoves us, therefore, to state briefly, how a (*sad*) repetition of that drama or farce is to be avoided. Our favourite system of super-revision (a *system* of revision) would have again to come into play. The *patterns* of the type or letters ought to be first produced by the persons tendering for the contract, and be subjected to a commission, *of* which men beyond all suspicion should be members—for instance Prof. Faraday, Brande, Dr. Ure, &c., &c. The ultimate *contract* of the accepted tender should be drawn out by a legal person, also beyond suspicion—and the material then received *not* in a whole lump, but in such quantities as they can be most conveniently fabricated.

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CLAREMONT.—An extensive and convenient range of stabling and coach-houses has been completed at Claremont, for the accommodation of the horses and carriages belonging to her Majesty when the court is stationed there.

STIR IN THE SCHOOL OF DESIGN.

Sir,—As you have been pleased to give publicity in your journal of the 5th to letters containing statements on matters connected with the Government School of Design, and which represent that institution as in a state discreditable to all connected with it, whether as teachers or scholars, it is hoped that you will in like manner be pleased to insert at your earliest convenience a few short matter-of-fact statements, tending to shew that there is much misrepresentation afloat about the present state and future prospects of that establishment.

In your number of the 5th there is a brief report of a conversation that took place lately in the House of Commons, in the course of which it was stated by Mr. Ewart, that the dispute in the School of Design had resulted in the withdrawal of the pupils almost without exception. That this is very far from being the case is easily proved, by giving the number of scholars that composed the school prior to the drawing up of the remonstrance, the number of those who were compelled to withdraw consequent upon their signing that document, and the number at present composing the school. (See postscript No. 1). But it is asserted that those remonstrators were the only persons in the school possessed of talent, and that, to use the words of your correspondent H. J. L., "in fact, the only students of promise the school could boast have been expelled." Our main answer to that will be made public about the 24th of the month, the time when the annual exhibition of designs and drawings will take place in the School. But it may be as well to answer this as the former assertion by a few simple facts. Before entering upon them you will perhaps pardon a short digression while we allude to the circumstances which have in a degree compelled us to come in this manner before the public. The thirty-seven remonstrating students have, in a pamphlet published by them, made a statement to this effect, that the students remaining in the upper classes of the school, are secretly as much dissatisfied with the present management as themselves, and as anxious to see a change in existing arrangements; this, an assertion totally at variance with truth, as far as the Class of Design for Manufactures is concerned, was circulated in such a manner, that while it might have been working an injurious effect in influential quarters, we who were thus unwarrantably spoken of could not know of it, as they had never in any way communicated with us, neither personally nor by sending us a copy of the pamphlet, in which we were so dishonestly made use of. As the authorities of the school have apparently disdained making reply to the calumnies so plentifully heaped on them, and as the pupils have hitherto forborne answering, the expelled have become bolder and bolder in their assertions till they have reached a climax. In the first of the letters before alluded to, it is said, that the only students of promise having been expelled, "there is none at present designing, nor even attempting to design;" if the letter containing this statement be indeed the production of one of the thirty-seven, the only conclusion we can come to is, that he is guilty of wilful falsehood, because many of the designs about to be presented before the council were in progress before the outbreak, and the majority of the remonstrators having visited frequently on the public days, they have seen many of our designs at their different stages towards completion. Surely a cause requiring the use of such disreputable means must be a bad one! To the general assertion of incompetence in those of us who remain attached to the school, we will apply a test that the remonstrators themselves must allow to be a fair one; we will take the list of prizes for original designs awarded at the competition in June, 1844, and shew who of the successful competitors are now in the school, who of them have been expelled, and who have been promoted to masterships of provincial and district schools —(See No. 2). This is the most sure test that can be applied, because original designing is the end and object of the institution, the point to which all our studies tend, and therefore the best criterion of talent; unless then it can be proved that they who were beaten are superior to those who beat them, it is incontrovertible that the great majority of those who last year distinguished themselves are still in the school, or have left it with credit to themselves.

We think enough has now been said to shew the unfounded nature of the statements contained in your paper of the 5th; for further proofs of the efficiency of the school, we again refer you to our coming exhibition, which we hope will exceed in quality as much as it will in quantity, all the former competitions at the School of Design.

We are, Sir, &c.,

G. M'Kenzie,	Geo. Wallace,
John Woods,	W. E. Cadman,
Daniel Pearce,	C. Hairs,
Robt. Jefferson,	P. Holland.
C. Worrall,	W. Chenling Wild,
Jno. Strudwick,	Samuel Walker.

This statement is signed only by students who will exhibit one or more original designs at the coming competition.

July 14th, 1845.

No. 1.

In April, the month of the outbreak..	Morning Class ..	113
	Evening Class ..	189
		302
Suspended for Remonstrating		37
		265
In July, the present month ..	Morning Class.. ..	82
	Evening Class	111
		193
Now waiting for admission, when the new arrangements are completed		70
		263

It is necessary to state that there is always a smaller number of scholars in the summer than in the winter and spring months, which may be accounted for by the fact that many of the scholars being artisans and apprentices, they cannot be spared from their employments in the summer, or busy season, as they can in the winter months.

No. 2.

A LIST OF THE PRIZES *Awarded at the Competition in the School of Design in June*, 1844.

No.	Description of Design.	Removed to Provincial Schools.	Remaining at Somerset House.	Suspended.	Sum awarded.	Remarks.
					£. s.	
1	Arabesque in Fresco	Mr. S. Rice.	.....	.....	5 5	Now Master in the Edinburgh School.
2	Ditto, in Fresco Sand.	.....	.....	Mr. Stewart	5 5	
3	Arabesque in Oil	Mr. Findon.	.....	.....	5 5	Now Master in the Manchester School.
4	Ditto, ditto, Second Prize	.....	.....	M. Fussell.	3 3	
5	Design for Paper-hangings	.....	Mr. Walker ..	.....	3 3	Now Master at Spitalfields.
6	Composition from Natural Flowers	Mr. Brown.	.....	.....	3 3	Sold to Mr. Pellatt for Ten Guineas.
7	Design for Chandelier.	.....	Mr. Strudwick	.....	5 5	
8	Design for Porcelain Service.	.....	Mr. Wyld ...	.....	5 5	
9	Two Drawings of equal merit	.....	Mr. Wallace ..	.....	5 5	
10	Design for a Sideboard	.....	.....	Mr. Phillips	3 3	Two Guineas only were given, because the Council did not consider the design deserving of more.
11	Design for a Carpet.	.....	Mr. Harvey...	.....	3 3	
12	Design for a Silver Candelabrum.	.....	Mr. Strudwick	.....	5 5	Now at Spitalfields.
13	Design for Silk Hangings	Mr. Brown.	.....	.....	3 3	
14	Printers' Prugget	.....	Mr. Wyld	.....	3 3	
15	Two Designs of equal merit	.....	Mr. Harvey...	.....	3 3	
16	Best Specimen of Ornamental Modelling	.....	.....	Mr. Armsted	3 3	

New Churches.—There are now in progress, in the diocese of Chester, no fewer than ninety-six new churches.

EXAMINATION IN LINES AND CURVES.

Sir, — The accompanying are a few questions, which may be put to students to ascertain their knowledge of lines. Doubtless their answers would suggest many other questions, and such questions may be greatly extended both in reference to the different characters of curves and their applications, as well as to the simple methods of tracing them.

1. What is a right line?
2. How is an original *right line* formed and proved to be such?
3. Describe the various means of producing right lines in different positions, in the execution of architectural works.
4. What is a circle, or circular line?
5. Describe the various means of forming circular lines or circles in the office and in the setting out or execution of large works, both by continuous motion and otherwise.
6. What is an ellipse, or an elliptical line, and what are the varieties of its form?
7. What solid is an ellipse a section of?
8. What is an elliptical line the perspective representation or projection of?
9. Describe the various means by which an elliptical line can be traced— distinguish those most applicable for the smallest or largest practical example required.
10. Are there any patchwork imitations of the ellipse, and in what do they differ from the true ellipse?
11. By whom and for what reason are such imperfect imitations of the ellipse used?
12. Point out instances of the application of the whole or part of an ellipse in architecture, and give the proof that the examples are such.
13. By whom was the ellipse discovered? and point out the earliest known applications of it in architecture or the arts.
14. What is the difference between an ellipse and an oval? and shew how the latter can be drawn by continuous motion.
15. Describe the various kinds of ovals, and point out instances of the whole or parts of such curves being applied in architecture.
16. What is the hyperbola, how traced, and where applicable in architecture?

29, Wimpole-street. Jos. Jopling.

THE MESSRS. BAKER'S DINNER TO THEIR WORKMEN.

Sir,—Whatever is calculated to increase the happiness of the community is well worthy of general attention; and among the various means tending to that end I will venture to place the occasional meeting of large numbers of men who are engaged in the same occupation. The good to be anticipated is an improvement of the social qualities by an exercise of mutual good and friendly feeling, and by affording an opportunity for each to learn the good points of his fellow-workman.

On Saturday, July 5, the annual recreation of Messrs. Baker and Sons, builders, Stangate, was held at the Greyhound, Dulwich. Many of the men availed themselves of the opportunity to visit the picture gallery belonging to the college, and manifested great interest in the inspection of this splendid collection; others occupied themselves with the various exercises for which the place is adapted, while the more quiet were satisfied to look on, and breathe the fresh air. It was pleasing to see the unanimity which pervaded the whole party. At seven o'clock about 120 sat down to dinner, for which they were well prepared by the various exercises of the afternoon, Mr. T. Fielder in the chair; after which the party were served with punch. The customary healths and toasts were drank with the usual formalities, and songs, recitations, and addresses were given. Thanks were voted to the chairman, and being duly acknowledged, the party separated in hope of seeing another July. It is thought that the example of Messrs. Baker and Sons is worthy of publicity and imitation from their cheerful liberality to this annual dinner. It is one proof among others of the interest entertained by them for their workmen, and no doubt can exist of its producing reciprocal respect and esteem. The interest of this annual dinner is also increased to the workmen by the kind and friendly manner in which the foremen and others meet and converse with them, forgetting for a time their distinction when in the workshop.

I am, Sir, &c., J. O.

THE GAUGE QUESTION AND THE DEFUNCT RAILWAY BOARD.

We mentioned in our last impression, that Government had appointed a commission to inquire into the expediency and practicability of securing a uniform gauge in the construction of railroads. The subject at the first glance will, with many persons, appear to be a difficult one, the bearings of the question however, are within extremely narrow limits. The gauge or breadth between the rails is upon American railways 4 feet 6 inches; upon Irish, 5 feet 3 inches. The Liverpool and Manchester Railway Company fixed their gauge at 4 feet 8½ inches. Other railways adopted the same breadth. Mr. Brunel introduced the first exception. Upon the line of the Great Western, 7 feet 6 inches were left between the rails. With this single exception, the narrow gauge was universal. In process of time, the rival lines were united by other railways, and then the evil resulting from a want of uniformity in the gauge was experienced. Trains constructed to ply the narrow gauge could not run right on along the broad, and *vice versa*. This rendered necessary the frequent shifting and transferring of passengers and luggage. The question now arises, is it expedient to avoid this evil by enforcing uniformity of gauge, and if so, what gauge must yield?

If the narrow gauge be finally adopted, it is pleaded that great risk of life and limb will be incurred. A certain speed of train is alleged to require a certain breadth of rail. If, to shun this evil, the narrow gauge be sacrificed to the broad, a vast expenditure of capital and labour is indispensably demanded. The narrow gauge extends over 2,000 miles of way the broad gauge over 300 miles only; 2,000 miles, therefore, must be altered to suffer 300 miles to remain unaltered.

If the broad gauge be compelled to conform to the narrow, only the rails require to be lifted, and the carriages slightly altered. In the other case, embankments must be reformed, tunnels widened, bridges broadened, and carriages made anew. It is also strongly denied that experience demonstrates higher risk of life and limb upon the narrow gauge.

Such is the nature and bearings of the question which the Royal Commissioners have to investigate and decide upon. Much speculation and uneasiness prevail with respect to the issue.

Since our last number went to press, Lord Dalhousie has delivered himself of the painful duty of pronouncing an *éloge* on the defunct railway board over which it has been his misfortune to preside. His Lordship stated, that "the Government having maturely considered the question, and having due regard to the constitution and operations of the committees of the House of Commons, and to the feeling which had been evinced by Parliament in the course of the present session, had come to the conclusion, that the Board of Trade should not in future prepare or submit to Parliament any report upon the merits of railway projects." He further said, that "the same preliminary steps on the part of railway companies which were now required, such as depositing with the Board of Trade a copy of the plan and a statement of the objects of the bill, would continue to be required. They would also be expected to deliver a copy of the bill when prepared; and if upon the examination of its provisions it should appear to the Board of Trade to be desirable, on public grounds, to direct the attention of Parliament to the nature of those provisions, the Board of Trade would be at liberty to submit to Parliament a report upon the subject, but in no case to pronounce any opinion upon the merits of the bill."

The determination of Government on this subject appears to have given universal satisfaction.

Coghlan's Guide Book for Travellers.—Now that our friends in "populous cities pent," town-wearied, are about to fly hastily to various parts of the world to get fresh ideas and health, we cannot do better than introduce to their notice Mr. Coghlan's extended guide book. Whether they propose examining the modern buildings of France, the town walls of Belgium, the cathedrals of Germany, or, later in the season, the glories of old Rome, they will find it a most serviceable companion.

NATIONAL EXHIBITION OF MANUFACTURES.

We mentioned some time ago that the committee of the Society of Arts, Adelphi, proposed to establish an exhibition of the products of British industry. They have now issued a preliminary prospectus soliciting promises of assistance from artists, engineers, manufacturers and others. The prospectus says justly: — Besides the delight and instruction which would certainly be afforded, it may fairly be expected that a periodical competition of this nature will exert some beneficial effect on the progress of the arts; not only by exciting honourable rivalry in the producers, but by enabling the consumers better to appreciate real excellence. The present moment seems particularly auspicious for making such an attempt. The triumphant success of two especially British products, the railway and the locomotive, has so united the remotest parts of these islands, that the exhibition, though taking place in the metropolis, would be rendered available to all persons, in all places; and would therefore be divested of much of that exclusiveness which might otherwise be objected to such a scheme.

Without entering into details, it may be stated, that the plan embraces the exhibition not merely of *products*, but of the *instruments* of production in actual work — the facility, rapidity, precision, and economy of the act of fabrication, being often much more wonderful than the fabric itself. In carrying out these ideas, it is intended entirely to exclude all private, personal, and political objects. It is hoped that the plan may be preserved so free from objection on these points, as to command the approbation of all ranks, and justify its promoters in anticipating the highest patronage.

Parties willing to assist in carrying out the proposition are invited to communicate with Mr. Whishaw, the secretary.

FREEMASONS OF THE CHURCH.

July 8.—The Rev. G. Pocock, L.L.B., in the chair. The minutes of the last meeting were read and confirmed. Mr. William J. Short, architect, and the Rev. F. Wrench, rector of Stowting, were elected members. The Right Hon. the Earl Cadogan exhibited one of the columns of the bedstead of Pope Leo X.; an Italian carving of Arlimisia, and a carving of Rubens' Battle of the Bridge. Mr. G. Field exhibited the four seasons carved in boxwood by a Flemish artist of the seventeenth century, also a medal in carved wood of the sixteenth century, containing Greek and Latin inscriptions. Mr. B. Hertz exhibited a carved spoon of ancient Egyptian workmanship, a ram's head in ebony, a deer's leg in cedar wood, &c. Mr. J. W. Archer exhibited a monumental brass, enriched with enamelling of various colours, now being executed by him, and dedicated to the memory of Lieut. Colonel White by the officers of the Inniskilling dragoons. Mr. W. H. Rogers presented some impressions of seals of the middle ages from the seal of Boxgrove priory, Nutley Abbey, Bucks, and from the seal of the vicarage of Salisbury.

Mr. W. G. Rogers then delivered a lecture on wood-carving, and illustrated it with carvings of all ages He commenced by referring to the neglect of the study of the art, and explained the difference between carving in wood and in stone. There is no branch of art which offers a larger field for investigation than the neglected subject of wood-carving. Disregarded to too great an extent by the architects and sculptors of our own country, and scarcely considered worthy a place in its literature, its history contains facts of the greatest interest. The high antiquity of the art of carving in timber was referred to, and a glance given at its history from the earliest ages, tracing its progress among the Egyptians, Syrians, Jews, and its cultivation amongst the Greeks and Romans. Mr. Rogers endeavoured to account for the absence of Etruscan carvings, and enumerated a few works of Oriental character. The impulse given to the art by christianity was noticed, and great stress laid on the extent to which carving in wood had been carried by the Norman and gothic architects. He noticed a remarkable work of the former period in box-wood, in the cabinet of Mr. Cavan. The advantages and disadvantages of the "Renaissance" were fully explained, and the pagan character of the wood-carvings of the period alluded to. After a few remarks on the loss of style, followed a catalogue of the principal carvings of antiquity, and those which in more modern times have gained the greatest celebrity. For instance, the lives of Demontrieul, the great wood-carver to the court of Marie Antoinette, Birbeck, the English, French, and Dutch carvers employed on the decorations of St. Paul's Cathedral, were severally noticed, and their works reviewed, not forgetting Grinling Gibbons, his works, his merits, his boxwood portrait of Charles II. in the Earl of Orford's cabinet, &c. The concluding remarks were on wood-carving at the present day, giving reasons for its decline, noticing carvings by machinery, and referring to the inventions and patents relating to the art.

After the lecture, Mr. Payne explained his process of injecting timber with a solution of iron, and exhibited numerous specimens which occasioned much discussion.

SAVINGS BANKS.

The following comparative statement of progress, at specified periods, during the last seven years, has been forwarded to us by the secretary of the St. Marylebone Bank for Savings:

	Open Deposit Account.	Sums invested with National Debt Commissioners.
	£.	£.
On the 5th July, 1839..	11,520	216,817
" " 1840..	12,445	249,479
" " 1841..	12,881	260,952
" " 1842..	13,100	275,072
" " 1843..	13,920	305,393
" " 1844..	14,636	340,509
" " 1845..	15,724	356,265

Mr. G. R. Porter, in a sketch of the progress and present extent of Savings Banks in the United Kingdom, read at Cambridge, stated that these institutions owed their origin to Miss Priscilla Wakefield, who in 1804 induced six gentlemen residing at Tottenham to receive deposits from labourers and servants, paying 5 per cent. as interest. Four years later eight persons, four of whom were ladies, took upon themselves the same responsibility at Bath. The first savings bank regularly organized was formed at Ruthwell, Dumfriesshire; its success led to many imitations, so that before any legislative provision had been made for their management, there were seventy savings banks in England, four in Wales, and four in Ireland. In 1817 an act was passed to encourage banks of savings in England and Ireland, but it was not extended to Scotland until 1835. Of the value of these institutions there can hardly be two opinions.

TERRA COTTA CHURCH, BOLTON-LE-MOORS.

The church of St. Stephen and All Martyrs, in the new parish of Leverbridge, Bolton-le-Moors, which is built entirely of *terra cotta*, from designs by Mr. E. Sharpe, as already mentioned in our pages, was consecrated on the 26th ultimo, by the Lord Bishop of Chester. The ground plan is cruciform, and at the west end is a tower, surmounted by an octagon, and a beautiful spire of open tracery, after the manner of Friburgh cathedral. The church has two entrances, the principal one at the west, and a small south one under the window of the south transept. The nave is paved with unglazed, and the chancel with encaustic, tiles. The font is a large basin of stone, enclosed in solid panels of *terra cotta*. The pulpit is at the angle of the chancel and north transept. The pews are low and open, with bench-ends and poppy-heads moulded in *terra cotta*, and painted. The north and south walls of the chancel are ornamented by an arcade below, with seats used as sedilia, and above by recesses with canopies. The east and west windows, and the tracery of all the windows, are filled with rich stained glass. The east window is by Willement, and the west (a memorial window to the Rev. George Langshaw, late Fellow of St. John's College), by Wailes, and is seen through a tower arch. The cornices and mouldings are enriched with texts; the chief of which are John vi. 53; Rev. xix., 9; Isa. lxiii., 5, 6; Wis. iii. 1—5; Rev. xx. 12; Matt. xi. 28.

SUSPENSION BRIDGES.

Fig. 1.

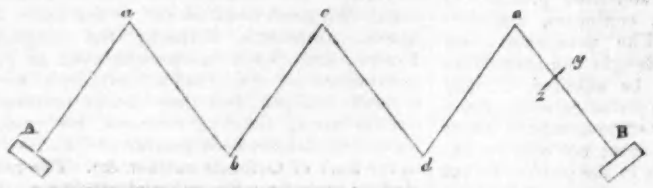


Fig. 2.

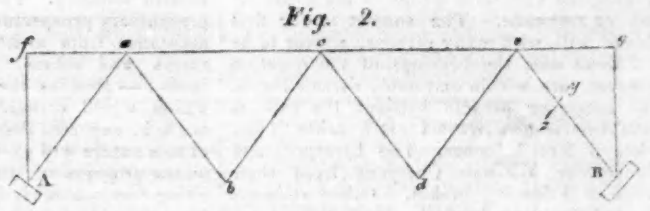


Fig. 3.

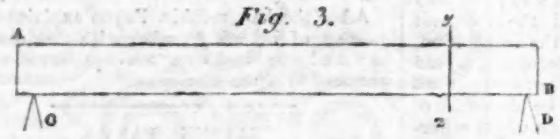
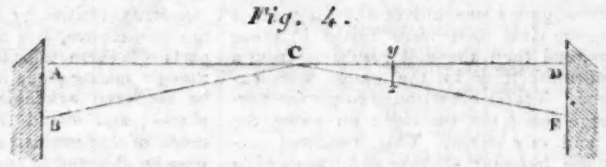


Fig. 4.



SUSPENSION BRIDGES.

Sir,—I perfectly understood the nature of my communication to you the other day, but since I have to explain some part of it, let us quote the whole sentence to which your correspondent B. B. refers:—"I must differ from you in supposing that suspension is more likely suddenly to give way than compression bridges; in proof of the contrary, I will instance the fall of the bridge across the Mill Fleam at Derby, those at Ashton-under-Lyne, and several others that have occurred lately, by which lives have been lost."

Here the failures at Derby and Ashton-under-Lyne are merely brought forward to shew that compression bridges are as liable suddenly to give way as suspension bridges are; and in the following sentence, when I speak of the erroneous principle upon which both suspension and compression bridges are built, none are particularized, though it alludes to all (that is all the bridges in which the horizontal force concentrates at the apex of the curve), and of course includes those at Derby and Ashton-under-Lyne, of which one, it seems, gave way from the trivial cause of the mortar not being sufficiently dry at the time the centres were struck, and which was as effectually destroyed as when, in the other case, the workmanship in the pier was defective. This shews the truth of my position by supplying an illustration omitted in my letter.

The most orthodox way of discussing the question of a principle is by reasoning mathematically upon the subject, which would directly shew my statement to be correct, but as many of your readers may perhaps prefer a simple common-sense, though rough illustration, to following me through the intricacies of the calculus, we will dispense, in this instance, with mathematics altogether. Suppose A *a b c d e* B, fig. 1, to be a viaduct consisting of three arches, and A and B the extreme abutment. Now, if from defective workmanship, or any other cause, either of these piers were to yield, all the arches would of course be levelled with the ground: or, suppose from the mortar not being sufficiently dry at any part, as *y z*, that part was to yield, the whole viaduct would be as effectually destroyed as in the former case, when one of the piers gave way. But if tension lines *f a a c* &c., be introduced, as in fig. 2, to the apex of each arch, so as to prevent any concentration of horizontal force, then if either of the piers, as B, were removed, not all the structure would be destroyed, but only that portion B *e g*: or if a failure were to take place at any section, *y z*, only a similar portion would be destroyed; the rest would remain as firm as ever. Again, let A B fig. 3, be a beam resting on fulcra C and D, either of which taken away, or a section *z y* made, would cause the beam to fall. But if on the other hand the beam be of the form as fig. 4, and of the piers, as D E, may be removed, whilst the other would still stand, or a section *z y* may be made, and only that portion *z y* E would fall, the rest would stand as firm as ever. Figs. 1 and 3 illustrate that principle which I say is erroneous, and will leave your readers to judge if I am not right.

If the piers of my bridge were to give way, the bridge of course would fall, but if only one was to yield, that part which rested upon that pier only would fall, the rest would stand as exemplified in fig 4.

The reason why suspension bridges have not been employed for railways is because in the common catenary principle the roadway hangs by vertical rods, and is therefore subject to the same motion as the chains, which would endanger the passing train. This, however, ceases to be the case when the suspending rods are arranged obliquely, for then the horizontal force is taken from the chains and resisted by the roadway, which renders it rigid, and over which railway trains may pass with safety.

Bath, July 8th. J. Dredge.

P.S. A question may be asked, how if the bridge is perfectly quiescent will the motion endanger a train? When using this expression in my former letter, I was speaking of a motion sufficient to alter the internal structure of iron; *now* I am alluding to a motion which would endanger a train; the latter of these would be perfectly quiescent as compared with the former.

ON MOSAIC FLOORS AND TESSELLATED PAVEMENTS.*

Let us now glance at the modes in which the decorative arts have been brought into requisition for covering the floors and pavements of buildings, or of forming the pavements themselves. Here, as in other matters, the usages of different ages and of different countries mutually illustrate each other, by shewing that in many instances a fashion after dying away for centuries revives again into new life.

That variety of pavement or flooring which consists of *mosaic* or *tessellated* work was very extensively employed by the Romans, as is evidenced not only by the pavements of still-existing buildings, but in the excavated ruins of Pompeii. The specimens of this art there brought to light are chiefly composed of black frets, or meandering patterns, on a white ground, or white ones on a black ground. The materials of which they are chiefly composed are small pieces of black and white marble, and red tile, some larger than others, so as to take a deeper hold in the mortar than the rest, and thus form a sort of bonding-course which gave stability to the whole. These pieces were set in a very fine cement, laid upon a deep bed of mortar which served as a base.

Pliny describes very minutely the plan adopted by the Romans in making cement or plaster terraces, which may have been the foundation or groundwork on which the tesseræ or mosaic pieces were laid. "To make a terrace of this sort," he says, "it is necessary to lay two courses of boards, one athwart the other, the ends of which ought to be nailed, that they should not twist nor warp; which done, take two parts of new rubbish, and one of tiles stamped to powder; then with other three parts of old rubbish mix two parts of lime, and herewith lay a bed of a foot thickness, taking care to ram it hard together. Over this must be laid a bed of mortar, six fingers thick, and upon this middle layer large paving-tiles, at least two fingers deep. This sort of pavement is to be made to rise to the centre in the proportion of one inch and a half to 10 feet. Being thus laid, it is to be planed and polished diligently with some hard stone; but, above all, regard is to be had that the boarded floor be made of oak. As for such as do start or warp any way, they be thought nought. Moreover, it were better to lay a course of flint or chalk between it and the lime, to the end that the lime may not have so much force to hurt the board underneath it. It were also well to put at the bottom a bed of round pebbles. And here I must not forget another kind of those pavements which are called Græcanics, the manner of which is this:—Upon a floor well beaten with rammers is laid a bed of rubbish, or else broken tile-shards, and then upon it a layer of charcoal, well beaten, and driven close together, with sand and lime and small cinders, well mixed together, to the thickness of half a foot, well levelled; and this has the appearance of an earthen floor; but if it be polished with a hard smooth stone, the whole pavement will seem all black."

The above description does not apply immediately to mosaic floors as such, but it serves to show that the Romans practised very extensively the art of forming firm and enduring plaster, one of the important requisites in the production of such floors.

The labour bestowed on some of these mosaics must have been immense; for instead of representing mere checquers of black and white, they form entire pictures, some of which have great beauty of drawing and of colour. The large specimen from the floor of the dining-hall of a house excavated at Pompeii in 1829, called the "House of the Faun," is regarded as the finest example of mosaic flooring yet met with, since it adopts a high style of historical painting as its subject, and is worked out with great skill and elaboration. When it was first discovered the Italian critics were enraptured with it; the vividness and harmony of the colours, the wonderful transparency of the atmosphere, and the correct drawing of the figures, called forth high encomiums. Professor Quaranta has said of it: "The extreme delicacy of this work in marble far surpasses the celebrated mosaic of Palestrina, as well as that of Hadrian's villa, which have hitherto been considered as the greatest wonders in this kind of work. Besides, what are four doves, some masks, and a few small figures, in comparison with a painting in which are represented twelve horses, a large war-chariot, and twenty-two persons, more than half the natural size, without reckoning those that were on the left side, which is almost wholly destroyed?

* From the "Pictorial Gallery of Arts," part vi., published by C. Knight, Ludgate-street. This work presents a mass of instructive matter profusely illustrated by woodcuts, at a cost singularly small. We cordially recommend it to our readers.

MOSAIC FLOORS.

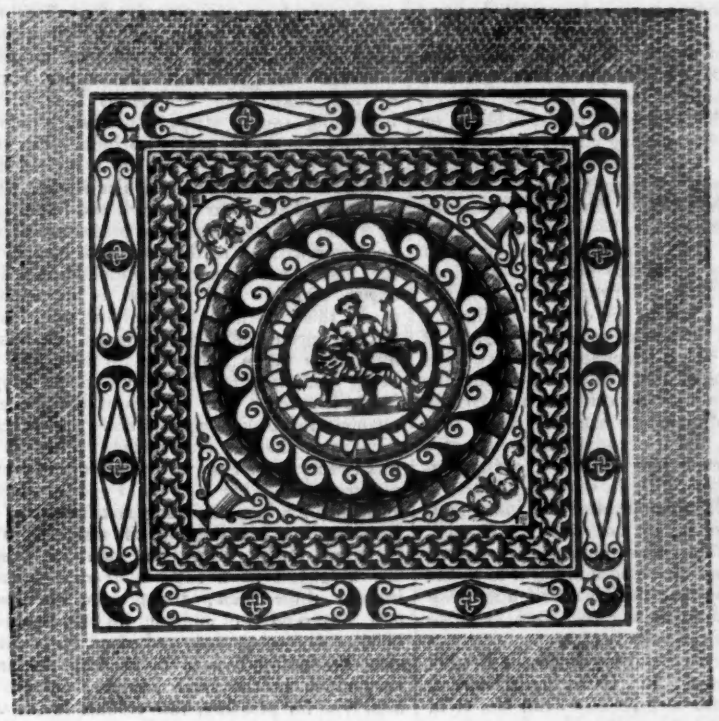


Fig. 1.

Fig. 2.

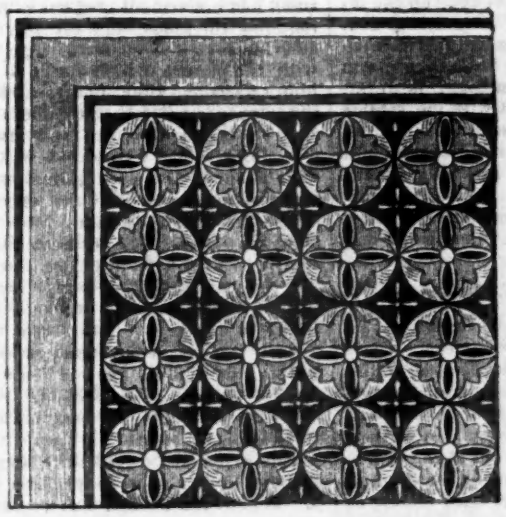


Fig. 3.

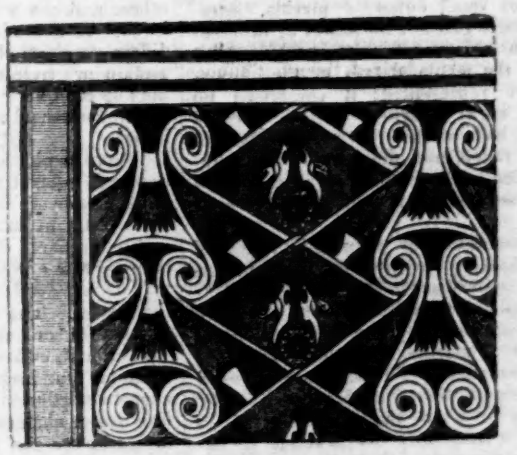


Fig. 4.

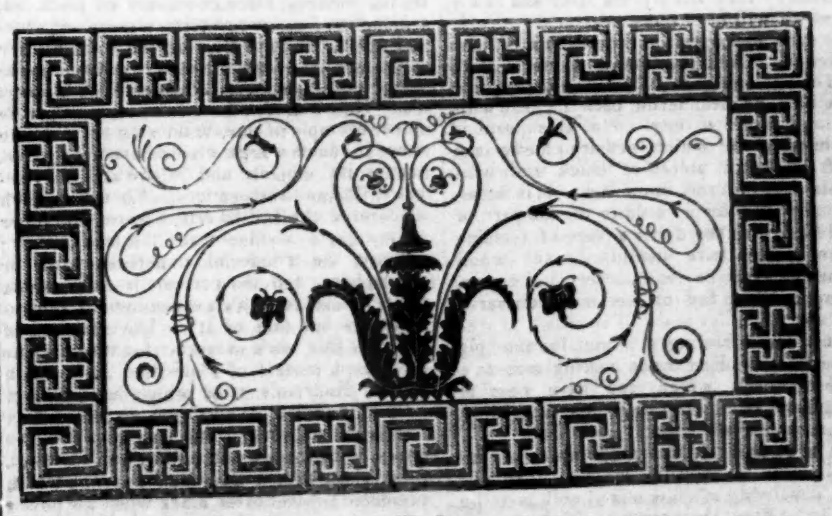


Fig. 5.

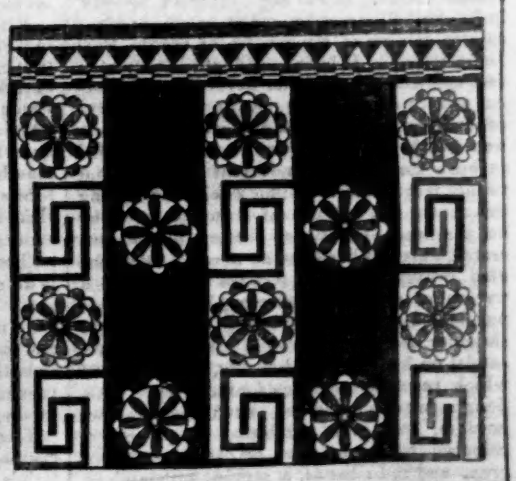


Fig. 6.

It is impossible to describe the consummate skill with which so many figures are arranged and grouped in this confined space, or the truth and correctness of the drawing, the distribution of light and shade, the effect of the colours, and scrupulous attention to the minutest accessories. Michael Angelo and Raffaelle might have been proud of the dying horseman; and Alexander's Bucephalus, the horses of the quadriga, the others that lie on the ground wounded, and especially the one rearing and fore-shortened, are drawn with a boldness and truth in their motions and positions which the greatest modern painters, Raffaelle not excepted, might envy." This praise is perhaps injudiciously glowing; but there can be no doubt that this mosaic must be a wonderful specimen of the art. The subject is supposed to represent one of the battles between the Persians and the Greeks. The odd conceits at the bottom seem of a far inferior stamp, and are probably the work of another hand.

Various other very remarkable specimens of mosaic have been from time to time brought to light in different countries. At the end of the last century a mosaic pavement was discovered near Seville, in Spain, at a small depth below the surface of the ground. It was forty feet long by thirty wide, and contained in the centre a representation of the circus-games of the ancients, while on three sides were circular compartments containing figures of the Muses, &c. In the race-course a busy medley of events was depicted, such as a chariot overturned, the charioteer thrown, horses in confusion, and horsemen dismounted; while several spectators are looking on at the sports. In the compartments, besides the representations of the Muses, were centaurs, children in variously-coloured tunics, and animals of various kinds. The floor between the different compartments also exhibited various birds, fruits, and flowers, and great diversity of colour was exhibited throughout the whole.

Another specimen, dug up near Lyons, was composed of small cubes of marble, interspersed in some places with pastes of different colours. In this, as in the specimen just alluded to, the whole details of the circus-games were represented; it comprised no fewer than eight chariots, which appeared as if they had started at once, some of which had fallen, and the horses and charioteers fallen. Spectators surrounded the scene, and seemed to regard it with eager interest.

The representation of pictures by means of mosaic for flooring or pavement was not the only variety known to the Romans. That ingenious people also formed patterns of a more or less elegant kind by the arrangement of small cubes of marble, or stone, or plaster previously coloured. The six cuts annexed give specimens executed apparently either by the Romans or while the Romans were in power. It is frequently the practice to denominate as "mosaic pictures" those which represent scenes or events, and as "tessellated pavements" those which exhibit simpler designs, generally in two or three colours only. The most beautiful specimen of Roman pavement yet discovered in London is that represented in fig. 1. It was dug up in the year 1803, in Leadenhall-street, immediately in front of the eastern column of the portico of the the East India House. It lay at the depth of only nine feet and a half below the street; a sewer had cut away a considerable portion of it, but the central compartment, about eleven feet square, was nearly perfect. The whole is supposed to have formed the flooring of a room about twenty feet square. "The device occupying the centre was a figure of Bacchus reclining on the back of a tiger, holding his thyrsus erect in his left hand, while a small two-handled drinking-cup hung from his right; a wreath of vine-leaves circling his forehead, a purple and green mantle falling from his right shoulder and gathered round his waist, with a sandal on his extended left foot, the lacing of which reached to the calf of the leg. This design was surrounded by three circular borders, the first exhibiting on a party-coloured field, composed of dark grey, light grey, and red ribands, a serpent with a black back and white belly; the second, a series of white cornucopiæ indented in black; the third and innermost, a succession of concave squares. In two of the angular spaces between this last circle and the circumscribing rectangular border were double-handled drinking-cups; in the other two, delineations of some unknown plant; both figures wrought in dark grey, red, and black, on a white ground. The square border surrounding the whole consisted of two distinct belts, one described as bearing some resemblance to a bandeau of oak in dark and light grey, red, and white, on a black ground; the other exhibiting eight lozenge figures, with ends in the form of hatchets, in black, on a white ground, enclosing circles of black, on each of which was the common ornament, a true lover's knot. Beyond this was a margin, at least five feet broad, formed of plain red tiles each an inch square."—*London*, No. xvi.

Many other specimens of Roman pavement have been dug up in the various alterations which London has undergone within the last half century. Thus in the course of digging the foundation for an extension of the Bank of England, in 1804, a tessellated pavement was found at a depth of about eleven feet below the surface, and is now deposited in the British Museum; its dimensions are only about four feet each way, and it occupied the centre of a floor about eleven feet square. In Cannon-street, in Holborn-hill, in Crutched-friars, in Broad-street, in Fenchurch-street, in Long-lane, in Eastcheap, in Lothbury, in Crosby square, and in Threadneedle-street, specimens of these pavements have been brought to light: thereby shewing that the use of such flooring was very common among the Romans. No longer ago than the year 1841, a specimen was found in the course of pulling down the French Protestant Church, in Threadneedle-street, still glowing with wonderfully fresh and vivid colours.

The Modes of producing Mosaic Floors.

The manufacture of all these varieties of inlaid floors or pavements, whether we call them mosaic or tessellated, depends on the arrangement of small coloured pieces in a definite pattern, the shapes being adapted to each other, and the whole brought to a uniform level. The mode of proceeding, however, differs considerably, according as a mosaic picture or pavement of tessellated tiles be the object in view. We will speak therefore of the former of these two, and then of the latter.

Where a picture rather than a pavement is required, enamel rather than stone is the material employed, as presenting greater facilities for adjustment in a delicate manner. There is first prepared a frame-work or foundation; then a layer of cement into which the mosaic may be imbedded; and lastly the mosaic pieces themselves. The frame-work, formed either of marble or of a volcanic stone called "piperino," is hollowed out to the depth of three or four inches, over the whole surface, except a portion to form a border at the edges. Grooves or channels, about one inch and a half in depth, are cut in the excavated hollow of the marble, somewhat wider at the bottom than the top, as a means of retaining the cement afterwards applied. The subsequent mode of proceeding is described somewhat minutely by Mr. Cadell, who witnessed the operations in Italy a few years ago; and to his account we will have recourse.

The early mosaic-workers used, as a cement in which to imbed the mosaic pieces, a mixture of one part of slaked lime with three parts of pounded marble, made into a paste with water and white of egg. But this paste is considered by the modern artists to harden too quickly, so that it solidifies before the workman has time to insert the pieces. It is therefore superseded by a mixture of one part of slaked lime with three of powdered travertine stone, mixed up with linseed-oil, and stirred and worked every day with a trowel; the mass is at first level on the surface, but afterwards swells up; each day more oil is added, to prevent it from becoming dry and intractable; and the mass, bearing some resemblance to a smooth ointment, is ready for use in a period varying from twenty to thirty days, according to the season of the year.

The next point is the preparation of the enamel pieces to form the mosaic. The materials, consisting of glass mixed with metallic colouring-matter, are heated for eight days in a glasshouse, each colour in a separate vessel. The melted enamel is taken out with an iron spoon, and poured on a polished marble slab placed horizontally, and another flat marble slab is laid upon the surface of the melted enamel, so that the enamel cools into the form of a round cake three-tenths of an inch thick. In order to divide these cakes into smaller pieces, each one is placed on a sharp steel anvil, called a "tagliuolo," which has the edge uppermost, and a stroke of an edged hammer is given on the upper surface of the cake: the enamel is thus divided into long square strips or prisms, which are cut to a length of nearly an inch. For small pictures the enamel, while in a melted state, is drawn into long quadrangular sticks, which are divided across by the anvil and hammer or by a file. Sometimes these pieces are divided by a saw without teeth, used with emery, and the pieces are sometimes polished on a lapidary's wheel. Gilt enamel is occasionally used: this is formed by applying gold-leaf to the hot surface of a brown enamel immediately after it is taken from the furnace, the two being made to adhere by a subsequent heating in the furnace. The colours of the pieces of enamels for producing a picture are extraordinarily numerous and varied. There is (or was twenty years ago) a manufactory of mosaic pictures belonging to the Pope at Rome, situated in a large building southward of St. Peter's. In this building, the enamels, in the form of sticks about an inch in length, are arranged in a suite of rooms according to their tints; these tints are *seventeen thousand* in number, all arranged in labelled drawers, boxes, and cases, from which they are withdrawn to be used by the artist very much in the same way as a compositor uses type for printing, the colours in the one case being somewhat analogous to the letters in the other.

The frame-work, the cement, and the enamels being thus all prepared, the artist proceeds as follows:—The cement is laid on in small and convenient portions at a time, to the required thickness, and brought very smooth and level at the surface. The artist then, with the picture which he is to copy before him, selects one after another sticks of enamel of the proper colours, and imbeds them in the cement, taking them up and inserting them with forceps, and fixing them into the cement with a small flat wooden mallet, until their surfaces are level. If the effect does not please the artist, he takes them out and rearranges them. The cement remains sufficiently soft for a fortnight or three weeks, so that the workmen takes care to lay on no more cement at once than he can cover with enamel before it hardens. When one part of the picture is thus represented, more cement is laid on, and another part is done in a similar manner until all is enamelled. As there are likely to be minute crevices between the bits of enamels, they are filled up with powdered marble or enamel mixed with wax, which penetrates by having a heated iron passed over it. When the enamel has remained in its position two months, so as to allow the cement to harden, the upper surface is ground down and polished by means of a flat stone and emery—an exceedingly laborious process.

Such is the mode in which the delicate Italian pictures of mosaic enamel are produced, a mode necessarily involving a large expenditure of time and money. At the manufactory at Rome, to which allusion has been made above, mosaic-work is conducted on a large scale; the different materials are arranged in numerous apartments, from whence they are removed by the artists as occasion requires. Besides this establishment, there are many artists in Rome occupied in smaller works, such as pictures of birds, insects, flowers, and other objects not exceeding 2 or 3 inches across; for such small specimens a frame-work or foundation of hardened copper is used instead of one of marble. As an example of the extraordinary minuteness of the work in some of these mosaics, we may state that there is one specimen, a portrait of Pope Paul V., in which the face alone consists of more than a million and a half of fragments, each no larger than a millet seed! and from this size up to 2 inches square, pieces are employed in various ways. Another celebrated specimen was one which Napoleon ordered to be made when his power was paramount in Italy. It was to be a mosaic copy of the celebrated "Last Supper," by Leonardo da Vinci, and to be of the same

size as the original, viz., 24 feet by 12. The artist to whom the task was intrusted was Giacomo Raffaelle, and the men under his direction, eight or ten in number, were engaged for eight years on it. The mosaic cost more than seven thousand pounds, and afterwards came into the possession of the Emperor of Austria.

Such, then, is the mode of producing the delicate specimens of mosaic which are adapted rather for pictures than for floors or pavements. The latter are produced in a rougher way, with less costly materials, and in pieces of larger size. In most cases the separate pieces are called "tiles," and are made of prepared clay, though in other instances pieces of marble or stone are employed. Of the pavement before alluded to, as having been dug up near the East-India House, in Leadenhall-street, Mr. Fisher remarks:—"In this beautiful specimen of Roman mosaic, the drawing, colouring, and shadows are all effected with considerable skill and ingenuity by the use of about twenty separate tints, composed of tessellæ (cubical pieces) of different materials, the major part of which are baked earths; but the more brilliant colours of green and purple, which form the drapery, are glass. These tessellæ are of different sizes and figures, adapted to the situations they occupy in the design. They are placed in rows, either straight or curved, as occasion demanded, each tessella presenting to those around it a flat side: the interstices of mortar being thus very narrow, and the bearing of the pieces against each other uniform, the work in general possessed great strength, and was very probably, when uninjured by damp, nearly as firm to the foot as solid stone. The tessellæ used in forming the ornamented borders were in general somewhat larger than those in the figures, being cubes of half an inch."

The ecclesiastical architecture of the middle ages was one of the means of reviving the use of tessellated pavements; for many specimens of tiles, once used for this purpose, are from time to time discovered in such buildings. A chequered flooring of black and white marble might be deemed a sort of mosaic; but the specimens here alluded to were tiles, each of which had its own pattern, independent of the combined pattern which all might have presented when laid side by side. In the Norman churches it was a frequent custom to lay down such tiles as a flooring for the high altar, and before shrines: at first these tiles were irregularly shaped, and were formed of glazed brick or pottery, painted with some Scripture device on the surface; but afterwards the plan was adopted of using carefully squared pieces, so as to produce greater neatness of joint. Wreaths, circles, heraldic ornaments, and various other devices, were painted upon the tiles, together with griffins, spread-eagles, fleur-de-lis, &c. Various animals, such as the fox, the cock, and others, supposed to have had a symbolic meaning, were also adopted.

It was long known to antiquaries that a mosaic pavement existed in the Chapter-House at Westminster, and this was laid open to view a few years ago, when the tiles, each of which bore a particular device, were found to exhibit as brilliant colours as when first laid down, the sizes varying from about 6 to 10 inches square. At Little Marlow Priory, at Lewes Priory, and at Great and Little Malvern, other specimens have been met with. Towards the close of the last century the attention of antiquaries was directed towards a mosaic pavement found at Caen in Normandy, the separate tiles of which were supposed to be emblazoned with the heraldic bearings of the barons who accompanied William of Normandy to England. The pavement is supposed to have belonged to a building forming part of a convent or abbey built by William and to have covered the floor of a hall measuring 150 feet by 90. The tiles were about 5 inches square, made of baked earth. Eight rows of the tiles, running from east to west, bore the arms of William's followers, and between these were ornamental compartments of tiles, formed so curiously into a maze or labyrinth, that it is said the windings of the lines forming the figure or device in each compartment extended to a mile in length. Of the state of this pavement at the time of the French Revolution, Dr. Ducarel said, "Notwithstanding these rooms have been used as granaries upwards of four hundred years, neither the damps of the wheat, the turning and shifting of the grain, nor the wooden shoes and spades of the peasants, constantly employed in bringing in and cleansing the wheat, have in the least damaged the floor, or worn off the painting from the tiles. The only injury this floor has received is the taking up some few of the tiles in order to open funnels through the floor for the more ready conveyance of the corn into the rooms beneath."

Tessellated pavements, like stained glass, have recently come again into fashion, in giving to ecclesiastical buildings a richness of decoration which has not been customary during the last few centuries. Many such pavements have been laid down in churches within a recent period, of which one of the most notable specimens is in the Temple Church at London. This pavement was made because, on renovating this ancient and beautiful building, it was found that a tessellated pavement had formerly existed there, which had for ages been buried beneath a pavement of another kind. The following is a description of the new tessellated flooring which has attracted so much the attention of the visitors to the Temple Church within the last two or three years:—"The ground is a dark-red or chocolate, but so elaborately covered with the amber or yellowish ornaments as to make the latter the prevailing hue. The patterns form first, divisions of various breadth (the widest in the centre of the central avenue), extending side by side, from the entrance-door to the farthest end of the chancel. Within each division there is no alteration of pattern, but the divisions themselves, as compared with each other, present considerable differences. The two most striking are those next to the broad central one, where, as we pace along, we have the lamb on one side of us and the winged horse on the other, the emblems of the two societies ('Middle Temple' and 'Inner Temple') to which the church belongs. The former is founded on the device of St. John; the latter, it is supposed, on the poverty of the Knights Templars at the outset of their career, when two knights rode one horse. Among the other ornaments of the pavement are a profusion of linked-tailed animals in heraldic postures; lions, cocks, and foxes; tigers, with something very like mail upon their shoulders; basilisks and other grotesques. There are also copies of designs of Anglo-Saxon origin, as figures playing musical instruments; and one illustrative of the story of Edward the Confessor, the evangelist John and the ring, a design which at once tells us from whence the materials for the pavement have been borrowed, viz., the Chapter-House, Westminster Abbey. The pavement formed by the tiles is as strong and imperishable as it is beautiful. The tiles are perforated all over with small holes in the under side; consequently, when they are laid in the cement prepared to receive them, and pressed down, the latter rises into these perforations, and hardening there, binds the whole indissolubly together."—*London*, No. 102.

The tessellated tiles of past ages were frequently, if not generally, called "encaustic" tiles, by which we are to understand (if the name be correctly applied) a kind of tile in which the device is in some way or other "burnt in," such being the meaning of the word "encaustic." Now, if the pattern were merely painted on the surface, and then burnt in or vitrified by the action of a furnace, the tiles would scarcely come under the denomination of mosaic or tessellated; and such seems to have been the case in many instances, so far as can be gathered from the descriptions. There was discovered, some years ago, near Malvern, an ancient Roman kiln, in which it is supposed encaustic tiles were baked. It consisted of two parallel arches about 35 feet in length, each 2 feet 3 inches wide by 15 inches high. These arches were composed of layers of brick and tile, and had a flooring composed of a less vitrifiable kind of clay than themselves. Below the floor was the fire-place, about 15 inches in height, and there was a flue at each end of the arches. Near the kiln were found several tiles similar to those in Malvern Church; and from this circumstance the purpose of the kiln itself has been inferred.

Whatever may have been the process followed by the early artists, the tessellated tiles now coming into use for pavements and floors are made by moulding and burning, but without any painting, properly so called. At the large porcelain-works in Staffordshire, Worcester, and elsewhere, this is becoming a regular branch of manufacture, and is conducted (in one of its forms at least) in a manner which we will now briefly describe.

The tessellated tiles are made of two differently coloured clays, one embedded in the other, and disposed so as to form an ornamental device. Three or more colours may be used by somewhat varying the process, but two is the usual number; and whatever may be the colours, the tile is first made entire in one colour, with a depression to be afterwards filled up with clay of one or more other colours. We will suppose the tile to present two colours, a yellow device on a brown ground. In the first place the modeller forms in stiff clay an exact model or representative of one of the tiles, about an inch thick, cutting out to the depth of a quarter of an inch the depression which constitutes the device. When this is properly dried, a mould is made from it in plaster of Paris, and from this mould all the tiles are produced one by one. The ground-colour of the tile is that which is adopted to cast in this mould. This, which we suppose to be brown, is mixed with water to a stiff consistency, and pressed into the mould by the aid of the press. On leaving the press it presents the form of a damp, heavy, square tile of clay, with an ornamental device formed by a depression below the common level of the surface, as in the original model. The next stage is to fill up this depression with the yellow-coloured clay, so as to bring both colours to a common level. To effect this the yellow clay, so far from being made stiff like the first, has a much more fluid consistency. The tile being laid on a bench, the workman plasters the yellow clay on it by means of a kind of trowel, filling up every part of the depressed device. When this is completed, the tile is allowed to remain six or eight weeks, to dry gradually, as a displacement at the joints would occur if the outer surface became quite dry when the interior was yet wet. Each tile is next scraped all over the surface with an edge-tool, till the superfluous portion of the second clay is removed, and the two clays be rendered properly visible, one forming the ground and the other the device. In this state the tiles are put into a kiln or oven, where they are baked in a manner nearly resembling the baking of earthenware or porcelain, the degree and duration of the process having especial reference to the kinds of clay used. Here a point is involved which calls for much attention on the part of the maker. As one of the clays is used in a more fluid state than the other, it would, under most circumstances, contract to a greater degree by heating; but the selection is so made that, notwithstanding the difference of consistency in the two clays, they may contract equally, and leave no unsightly gaps at the joinings. When the tiles are sufficiently baked, they are cooled gradually, and then dipped into a vessel of liquid "glaze," in the same manner as articles of porcelain. After this they are exposed for twenty-four hours to the heat of a "glazing-oven," by which the glaze is made to adhere to surface, and the tiles then appear with whatever ornamental device may have been designedly given to them.

HOLBORN AND FINSBURY SEWERS.

The result of the last meeting of the commissioners for Holborn and Finsbury was rather unusual. All the tenders sent in for the Gray's-inn-lane sewer exceeded the surveyor's estimate very largely, and neither was accepted; and for the Charlotte-street sewer, (Bedford-square) 3,400 feet long, estimated at nearly 4,000*l.*, only one tender was sent in and this was returned unopened. The following is a list of the tenders for the Gray's-inn-lane and Liquorpond-street sewer, 800 feet in length:—

Eldred	£1,186
Cooper	1,002
Hill	940
Ward	940

No tender accepted.

CONSTRUCTION OF ICE-HOUSES.

Sir,—Will you allow me to ask a question through the medium of your very useful paper, in which questions and answers from time to time from various subscribers form no inconsiderable part? In the month of January last I built an ice-house at the back of my cellar, which is under ground, built and arched over with 14-inch brickwork, the door opening into an area. On excavating for the ice-house to about the depth of 19 feet, I found a spring of water, which I thought would be available for the house. I carried the excavation down to the depth of 30 feet, steined the well with 9-inch brickwork, and formed a floor 12 feet up from the bottom (the height of the water being 9 feet); the floor was of 1½-inch plank, perforated with holes to lead any water from the ice into the well. Before filling it with (*thick*) ice I put on a layer of straw over the floor. The house was built and domed over with 9-inch brickwork, and well compo'd inside and outside, with 3 feet of earth on the top. Six feet under the dome, a little above the cellar floor, I inserted a cover of 1½-inch plank, with manhole, and had an inner and outer door leading into it from the cellar, also, an outer cellar-door; but notwithstanding all these precautions the ice has disappeared. I should feel much indebted to any of your readers by their informing me in what way I have erred, and what remedy I can adopt to prevent a recurrence.—I am, Sir, &c., A Subscriber.

Paddington, July 3, 1845.

*** No ice could possibly remain in such a receptacle, as the water in the well would speedily reduce the ice to its own temperature. Our correspondent must get rid of the water-well,—introduce an additional wall all round the inside of the house and over the floor (keeping a space between), and provide means for carrying off such water as may be produced by the melting of the ice, without the risk of introducing air. There should be at least three doors, and the space between two of them should be filled with straw. The greatest care is requisite in the construction of ice-houses to prevent the access of heat.

IRON AND THE IRON TRADE.

The usual quarterly meetings of the iron masters were held last week—at Walsall on Tuesday; Wolverhampton on Wednesday; Birmingham on Thursday; Stourbridge on Friday, and Dudley on Saturday.

During the last quarter some houses had reduced the price of bar iron from 10*l.* to 8*l.* per ton, and it was arranged at the Birmingham meeting that a general reduction to the last quoted price should be made. It was, however, reserved, in accordance with the usual practice, that the final confirmation of the reduction should emanate from the Dudley meeting, and at the close of the business, last Saturday, the prices were declared as follows: bar-iron, 8*l.* per ton; pigs from 3*l.* 10*s.* to 4*l.* per ton. How long they will remain at the reduction is uncertain, but there is no great danger of a sudden advance. The fluctuations which have latterly taken place have been of considerable embarrassment to the trade, and rendered it very difficult for the manufacturer to know how to purchase. The general impression is that 8*l.* is a remunerative price, and the masters being well aware that the manufacturers cannot compete with the foreign market if they have to pay a higher price for the raw material, will see the impolicy of again advancing the prices unless under some very extraordinary circumstances.

While on the subject of iron, we would mention that at the late meeting of the British Association, at Cambridge, Dr. Lyon Playfair read a report, prepared by Professor Bunsen, and himself, on the chemical changes occurring in iron furnaces. During many years the attention of scientific men on the Continent had been directed to the employment as fuel of the combustible gases that escape from the mouths of furnaces. Dr. Playfair and Professor Bunsen have carefully examined the gases taken from different heights of the furnace, and gave tabulated results of their analyses, the results of which were that for a depth of 24 feet down the body of iron hot-blast furnaces worked with coal there is no available heat for the melting of the metal, the whole of the heat for that extent of the furnace being employed in distilling the coal. The important fact which they established by their experiments is, that in common hot-blast furnaces, as at present employed, *ninety-one per cent.* of the heating power of the fuel *is lost;* that is, only nine parts out of one hundred are effective, the remaining portion being carried off in gases. It was proposed, therefore, to collect the gas as it issues from the furnace mouth, and to employ it usefully in various parts of the works, though they did not recommend the re-introduction of such gas into the furnace for smelting the metal. Dr. Playfair said that these researches had led them to the consideration of a new system of manufacturing iron, which would produce a complete revolution in the present mode, but they had not had sufficient time to digest the plan to authorise them to recommend it to the association; it would form the subject of their labours for the next year.

NOTES FROM THE PROVINCES.

It is in contemplation, at Yarmouth, to enlarge and restore St. Nicholas' Church, and to convert the remains of a priory on the south side of the churchyard into a national school. The estimated expense is between 4,000*l.* and 5,000*l.* St. Nicholas' Church, to an ordinary observer, appears little better than a dilapitated disproportioned and unsightly erection, but to the eye of the antiquary it presents beauties and attractions of no ordinary character. It is one of the oldest parochial edifices of the kind in England; a great peculiarity, and one in which it perhaps stands alone amongst the churches of Christendom, is in having its nave considerably smaller than the aisles, both in regard to length and breadth. The remains of the priory are now being used as a stable. They still contain two very beautiful windows and other specimens of ancient ecclesiastical architecture. Many of the corbel heads have been removed only within a very few years. Mr. Hakewill is the architect.——The principal difficulties connected with the Woodhouse tunnel, on the Sheffield, Ashton-under-Lyne, and Manchester Railway have been overcome. From the mouth of the tunnel to a little beyond the first shaft there is upwards of 1,200 yards completed, being arched, having side drains and the rails laid. Between the first and second shafts the arching for a considerable distance is finished. The whole of the excavation is completed with the exception of about 300 yards. The depth of the first shaft is 183 yards, and of the second 193 yards. The highest point of ground under which the tunnel passes is situate between the third and fourth shafts, and is 536 yards above the level of the sea at low water.——The York and Scarborough Railway was opened on the 7th instant. The directors and their friends started from York, after partaking of a splendid breakfast in the Town Hall, in 36 carriages, each containing 18 persons. Near to Castle Howard the train stopped to take up Lord Morpeth, who had provided refreshments for the occupants of the train. After remaining a short time at Scarborough the company returned to York, and dined at the Town Hall.—— During the past winter the beautiful grounds adjoining Alton Towers have been greatly improved under the direction of Mr. W. A. Nesfield. The upper terraces and slopes have been decorated with groups of marble statues and colossal marble vases interspersed with rose trees and beds of exotic flowers. The growth of the trees, particularly the evergreens, were beginning to hide the architecture. Many of these have been removed, and the beautiful stone work of the scalloped walls and vases are brought to light again, and stand out in bold relief against the rich background of forest trees. The Earl and Countess of Shrewsbury permit the house, with its galleries of paintings and works of art, as well as the gardens, to be shewn to respectable persons, who can obtain cards for admission on applying at the Shrewsbury Arms Inn.—— The Town Council of Beverley are actively engaged in improving the sanatory condition of their town. The sewerage has been disgracefully neglected for many years. A capacious reservoir, 30 yards long and 4 feet in depth, has been found to be full of filth, it not having been cleared during the last 30 years.

LIST OF NEW PATENTS RELATING TO ARCHITECTURE, ENGINEERING, &c., GRANTED FOR ENGLAND.

Furnished by Mr. A. Prince, of the Office for Patents of Inventions, Lincoln's-inn Fields, London.

[six months for enrolment.]

Cornelius Whitehouse, of Wolverhampton, gun-barrel manufacturer, for improvements in machinery for welding and hammering, and in the manufacture of gun-barrels and other tubes. June 3.

William Costen Aitken, of Birmingham, clerk of works, for a certain improvment, or certain improvements in ornamenting cornices, ends for cornice poles and other rods, curtain bands and certain other articles. June 3.

John Lionel Hood, of Saint John's Wood, gentleman, for improvements in the application of motive power, for locomotive and other purposes. (Being a communication). June 3.

William Brent Brent, of Gower-street, Bedford-square, barrister-at-law, for certain improvements in machinery for cutting or excavating, and removing earth. June 3.

Thomas Lawes, of Old Kent-road, Surrey, gentleman, for improvements in propelling carriages on rails and other roads, and boats or vessels on canals and rivers, which improvements are also applicable to machinery in general. June 3.

William Palmer, of Sutton-street, Clerkenwell, manufacturer, for improvements in working atmospheric railways, and in lubricating railway and other machinery. June 5.

Henry Kerr, of Abingdon, Berks, butcher, for certain improvements in the construction of temporary roofs or coverings. June 5.

James Harday, of Birmingham, gentleman, for improvements in the manufacture of metallic tubes, or pipes, by machinery. June 5.

William Willocks Sleigh, of Stamford Brook House, Chiswick, doctor of medicine and surgeon, for a hydro-mechanic apparatus for producing motive power. (Colonies only.) June 7.

Samuel Harvey, of Halesworth, in the county of Suffolk, cabinet-maker, for certain improvements in sawing machinery. June 7.

David Henderson, of London Works, Renfew, civil engineer, for certain improvements in cranes. June 10.

Thomas Smith, of Wood-street, Cheapside, gentleman, for improvements in suspending carriages, and in the construction of wheels for carriages. June 10.

Frederick Rosenborg, of Kingston-upon-Hull, gentleman, for improvements in the arrangement or construction of machinery, or apparatus for propelling or impelling vessels, and in steering or manœuvring the same. June 12.

Thomas Clark, of Hackney, engineer, for an improvement on the atmospheric system of propulsion, which is also applicable to other motive purposes. June 23.

Robert Griffiths, of Havre, George Hinton Bolville, of Millwall, and George Hennett, of Bristol, engineers, for improvements in the construction of parts of apparatus used for propelling carriages and vessels by atmospheric pressure. June 23.

Joseph Zambaux, chemist, of Paris, for improvements in atmospheric railways. June 25.

William Sykes Ward, of Leeds, gentleman, for improvements in exhausting air from tubes or vessels for the purpose of working atmospheric railways and for other purposes. June 25.

Joham Baggs, of Great Percy-street, Claremont-square, engineer, for improvements in obtaining motive power by air. June 26.

Charles Goodwin, of Bow-lane, ship-surveyor, for certain improvements in masts and spars. June 30.

Account of the Parish of Stowting, Kent.*—The Rev. F. Wrench has published a *brochure* under this head giving an account of the antiquities lately discovered there, which are considered to be Anglo-Saxon, and of the sixth or seventh century. Mr. C. Roach Smith, in a note on these relics, suggests that excavations for railroads about to be made in Kent will probably bring to light many antiquities of different epochs, to preserve which every man of good taste and feeling should exert himself.

* J. R. Smith, Old Compton-street.

Correspondence.

PREVENTION OF DAMPNESS.

Sir,—In the spring of 1844 I built my house, and in the office, in an 18-inch rough stone wall, had a large iron safe fixed, which has a well in it 18 inches deep, the lower part of which is below the level of the floor of the room. It was remarkably fine during the progress of the whole building, and great part of the stones used were old ones, yet, although it is now fifteen months since, if I close the doors for a week, my books begin to mould; and I have never been able to keep any thing in the well, which is covered with rust. Could you oblige me by informing me how I can remedy this serious inconvenience without removing it, as its front reaches from the bottom to nearly the top of the room, and is, moreover, set in large Portland stones, which run a considerable distance into the wall, and could not be removed without great trouble and expense? I thought it possible some means might be suggested, and if you can assist me, you will confer a favour on your obedient servant,

July 10, 1845. A Subscriber.

*** We have, at different times, received several communications on this same subject, but without an acquaintance with the *locus in quo* find it difficult to suggest a remedy. We shall be happy to hear the opinion of correspondents. As an expedient a lining of slate, kept at a short distance from the sides, bottom, and top, of the safe might be resorted to.

SCAFFOLDING.

Mr. Editor,—There are some houses building at Kensington Gore which have a contrivance worthy of being imitated by builders, where space will admit of its being used: it is a series of inclined planes, to enable the labourers to reach with more ease to themselves the different stories of the building with bricks and mortar. A labourer told me that he was more fatigued going up one day by the ladder than he was three on the inclined plane. I am, Sir, yours obediently,

A Subscriber to your valuable Journal.

Miscellanea.

College for Civil Engineers, Putney.—The annual distribution of prizes was made here on Tuesday last. The Hon. R. E. Howard took the chair, but ultimately resigned it to the Earl of Devon. The Rev. Morgan Cowie, principal of the college, in his report on the general conduct of the students, said;—An engineer's business was, above all others, most various and extended in its operations and effects from one side of the earth to the other. He, therefore, considered that the best way of qualifying the students was to give them a sound theoretical education, the groundwork of which was mathematics and chemistry. The pupils were taught by models, and many of them made models themselves requiring great skill and experience in their execution. They were also occupied in levelling and surveying, accompanied by an experienced person in these branches, who could point out to them and explain whatever difficulty might arise; in fact, they did exactly what they would have to do if they were in an engineer's office. The education that was given by the college might be classed under five principal heads, namely— mathematics, chemistry, geology, the art of construction, and knowledge of principles, and the practice of machinery; to which might be added, the study of French, German, and every other branch of learning necessary to complete the education of a gentleman and an engineer. In all these departments Mr. Cowie could say with much pleasure that the progress of the students had been in general very satisfactory.

The New Palace at Osborne.—The works are proceeding rapidly under the special supervision of the Queen and Prince Albert. The new wing will be about 70 feet square, and similar in character to the eastern front of Osborne House. Her Majesty and suite unexpectedly attended divine service at Whippingham church during their last visit.

City Improvements.—At a Court of Common Council recently held, Mr. R. L. Jones brought up the report of the London-bridge Approaches Committee, to whom it was referred to examine the allegations in the petition of the inhabitants of the north side of the ward of Farringdon-without, for the completion of the improvements at Farringdon New-street and Holborn-bridge, with instructions to report their opinion upon the expediency of carrying out those proposed improvements. It stated that the committee had viewed the new line of street, and the projecting houses on the north side of Holborn-bridge, and directed the clerk of the works to report his opinion as to the estimated value of those houses, and also to report the probable amount of the cost of the improvement, deducting the value of the surplus ground; that they had subsequently received reports from the clerk of the works, from which it appeared that, exclusive of law charges, the probable cost of completing the line of improvement at Holborn-bridge, after deducting the value of the surplus ground, would amount to 14,500*l*. That the committee having duly considered all the circumstances, were of opinion that it was desirable for the City to complete the line of improvement at Holborn-bridge, by purchasing and setting back the said houses, provided suitable means and powers could be obtained for that purpose; and they were further of opinion that an opportunity would at the same time be afforded for effecting an additional improvement of Holborn-hill. The committee, therefore, felt it their duty to draw the particular attention of the court to the propriety of taking measures to carry out these objects, and they recommended the same accordingly. That they had caused the vaults to be constructed on both sides of Farringdon-street, and had already let eleven of the lots of ground in that street on building leases, and were taking measures which they trusted would ensure future lettings, so that the whole of the improvement, so far as the City was concerned, might be completed without delay, and that they were the more strengthened in that opinion in consequence of the measures in progress for carrying on the new line of street in the county of Middlesex.

Reduction in the Price of Gas.—The Chelmsford Gas Company have resolved to reduce from Michaelmas next to those who burn with meter the price of gas from 10s. per 1,000 feet (the sum hitherto paid) to 8s. 4d. They have also determined to allow 10 per cent. to those whose consumption in the year is 40,000 feet and upwards, thus in effect lowering the price to 7s. 6d. per 1,000 feet. The Barnsley Gas Company have agreed to reduce the price of gas from 9s. to 7s. 6d. per thousand cubic feet from the 1st instant. The Birmingham Old Gas Company have given notice, that from the present time the price of gas to consumers under 5,000 cubic feet per quarter, will be 6s. 8d. per 1,000; to those consuming upwards of 25,000 cubic feet per quarter, 5s. 8d., and to consumers above that quantity 4s. 6d. per thousand cubic feet.

New Schools and Churches in Southwark.—In consequence of the great want of schools and church accommodation in Southwark and the adjoining parishes of Bermondsey, Lambeth, and Newington, a committee has been formed for the purpose of raising funds by subscription to be applied towards the erection and endowing of several additional schools and churches in those districts. Her Majesty has contributed 200*l*., and Prince Albert 100*l*. The Archbishop of Canterbury gives 1,000*l*., and the same amount is subscribed by the wealthy brewers, Messrs. Barclay, Perkins, and Co. The contributions already amount to upwards of 11,000*l*.

The Queen's Pavilion, Buckingham Palace Gardens.—The decorations of the pavilion are now completed: pressure of matter prevents us from noticing them this week, but we shall do so in our next number, and shall then be able, we trust, to remove one or two misconceptions which at present possess the public mind.

The Home Minister's Electric Telegraph.—A metallic wire, for establishing a communication between the electric telegraph of the Rouen Railroad and the ministry of the interior, has been carried along the watercourses and under the Pont de la Concorde to the minister's office.—*Morning paper.*

Tenders.

Tenders delivered for the erection of Two Warehouses in Montague-close, London-bridge, for Alderman Humphery; Mr. J. Griffith, Architect.

Harrison	£19,500
Nicholson	19,500
Cubitt	19,400
Lee	19,340
Lawrence	19,280
Ryder	19,100
Jay	18,081
Jackson	17,999
Little	17,896
Grimsdell	16,782

Opened in the presence of the parties.

Tenders for the erection of Dwelling-house and Farm-buildings for F. Tucker, Esq., at Bourton, near Shrivenham, Berks, July 3rd, 1845. At the office of the Architect, Mr. W. F. Ordish, John-street, Adelphi.

Gerry, London	£8,210
Willson	7,782
Burchell, Swindon	7,710
Rose and Terrant	7,400
Kirk, Sleaford, Lincoln	6,650

Tenders delivered for Twenty-four Houses, Lillington-street, Vauxhall-bridge-road, to Henry Coe Coape, Esq., and Capel Coape, Esq., under Mr. Henry S. Ridley, surveyor.

Haward and Nixon	£11,692
Rippon	11,086
Burstall and Son	10,735
Burtonshaw	10,696
Lacey	10,683
Pattenton	10,649
Glenn	10,491
Winsland	10,447
Bennett	10,325
Pink	10,296

Tenders for Four Houses in Charlwood-street, adjoining.

Haward and Nixon	£2,992
Burstall and Son	2,794
Rippon	2,757
Pattenton	2,755
Burtonshaw	2,600
Glenn	2,598
Bennett	2,576
Winsland	2,550
Pink	2,539
Lacey	2,270

NOTICES OF CONTRACTS.

[We are compelled by the interference of the Stamp Office to omit the names of the parties to whom tenders, &c., are to be addressed. For the convenience of our readers, however, they are entered in a book, and may be seen on application at the office of "The Builder," 2, York-street, Covent-garden.]

For the Construction of Four divisions of the Chester and Holyhead Railway, comprising the entire line through the County of Anglesey.

For Building Sewers in the Old Bailey, Hanging Sword-alley, and Crown-court; also in John-street, Crutchedfriars, and Cullum-street, all being within the City of London.

For Lighting the town of Woodbridge in Suffolk with Gas.

For Building Sewers from Bloomsbury-street, Holborn, along Charlotte-street, the east side of Bedford-square, and Gower-street, with a branch Sewer along Store-street, the length being about 3573 feet with 1480 feet of gully street and 2320 feet of private drains.

For supplying her Majesty's several Dockyards with stone-ground Glass in panes, crown glass and green glass in tables, and window Lead, and glass illuminators and tubes.

For certain alterations of the premises (formerly the Post-Office), in Crown-street, Bury St. Edmunds, and for a New Building.

For supplying her Majesty's several Dockyards with Canada Red and Yellow Pine Timber, Rock Elm Timbers, Spruce Deals, and Ash Oar Rafters.

APPROACHING SALES OF WOOD, &c. BY AUCTION.

At the Harvey Arms, Finningly, near Bawtry: upwards of 150 tons of well-hearted Oak Timber in lots of from one to two tons each. Also a quantity of Cord Wood.

At Deckhead, Bermondsey: 200 12 feet 3 inches, 11 inches, and 10 inches Spruce plank; 250 14 feet 3 inch Yellow Findland Deals; 700 15 feet to 6 feet 3 inches and 9 inches Gefle deals; 680 12 feet to 6 feet 3 inches Spruce deals; 100 21 feet to 18 feet Norway Battens; 250 12 feet Spruce and Pine Battens.

At Little Bentley Hall, Essex: 2000 particularly straight and good Larch Fir Trees in lots of from 10 to 20 trees.

COMPETITIONS.

Plans are required for Laying out and covering with Villa residences about 20 Acres of land having a frontage of about half-a-mile to the Queen's-road, Richmond, Surrey, extending from Spring-grove towards Richmond-hill. Premiums will be given of 25 guineas for the most approved plan, and 15 guineas for the second.

TO CORRESPONDENTS.

"Humanitus" *draws attention to the open sewers in the neighbourhood of the Vauxhall-road and Pimlico, and urges that houses there remain unoccupied in consequence.*

"A Carpenter."—*We will endeavour to supply him with the information he wishes to have.*

"J. W."—*Hilch's Drain-bricks may be obtained at Lindsey Wharf, Chelsea.*

"W. S. P."—*The sum named would hardly suffice to provide the accommodation required even in the plainest manner. We should advise our correspondent to appoint some architect to prepare plans for approval. We should be happy ourselves to do so if applied to professionally; or would give any information that might be desired.*

"T. W., (Islington)."—"*Cornices to overhanging roofs*" (*unless building be insulated*) *must be built of the same materials as are by the Act directed to be used for building the external walls to which such projections belong, or of such other proper and sufficient materials as the referees may permit.*

"Cube Dimensions."—"X. Y. Z." *wishes to know the title and publisher's name of any work containing tables shewing at a glance the cubical contents of bodies of which the dimensions are given: also, tables of superficial contents.*

"Credence Table."—*A correspondent wishes to learn if there be an ancient credence table in any church in London? We do not know of one.*

"E. de B."—*The Act establishes that a fee of 1l. 1s. shall be paid to the district surveyor for every "insulated" building erected. The drains would come under his supervision.*

"A. A."—*Thanks.*

"B. C."—*The suggestion shall not be lost sight of.*

"Workmen at Paddington."—"J. L. G." *states that the way in which the ill-will to each other is shewn by workmen, particularly the plasterers, at Paddington, is deplorable; mouldings and cornices are destroyed, and other injury done. He refers for an example to a balustrade wall in Westbourne-terrace, which has been recently erected. It is to be hoped that the police will keep a sharp look out, and means be taken to detect and punish such miscreants.*

"G. H."—*The paper on railway curves shall appear next week.*

"F. T."—*We shall be happy to receive the paper mentioned, but should not be disposed to insert any* violent abuse.

"P. P."—*Building operations are about to commence at White Knights, Reading. Land may be had for single houses.*

Received: "*W. S.*," — *the Ecclesiologist, No. 4., new series.*—"*F. G. A.*"—"*Q. Q.*" "*Appeal in favour of the Warder and Statesman Fund.*"

ADVERTISEMENTS.

E. G.'s TRACING-PAPER.—It is warranted to take Ink, Oil, or Water colour, and is sold by MESSRS. ROBERSON AND CO., SOLE AGENTS, 51, LONG-ACRE, at the following cash prices:—

THIN TRACING-PAPER.

60 by 40, at 14*l.* 0s. per Ream, or 15s. 0d. per Quire.
40 by 30, at 7*l.* 0s. ,, 7s. 6d. ,,
30 by 20, at 3*l.* 15s. ,, 4s. 6d. ,,

THICK TRACING-PAPER.

40 by 30, at 14*l.* 0s. per Ream, or 15s. 0d. per Quire.
30 by 20, at 7*l.* 10s. ,, 8s. 0d. ,,

N. B.—Every sheet is stamped with the Initials of the Manufacturer.

This beautiful and unequalled article is allowed to be the cheapest and most useful Paper hitherto introduced to the public, as will be best proved by a trial.

BIELEFELD'S PAPIER MACHE.—The superiority of the Papier Mâché for the purposes of ARCHITECTURAL DECORATIONS is now so generally admitted, that it is needless to argue it. The introduction of Papier Mâché into most of the public and private buildings in the country is the best proof of its merits. Ornaments may be had in almost every style, and pattern-books, containing more than a thousand executed designs. Price 1*l.*

PICTURE FRAMES and other Articles of Furniture, either gilt or in imitation of the finest carved oak. An illustrated Tariff forwarded on the receipt of eight post-office stamps.

PATENT QUAQUAVERSAL GLASS-STANDS for the toilet, on an entirely new principle, of great elegance, and free from all the practical inconvenience of ordinary Glass-stands.

At the works, 15, Wellington-street North, Strand.

TO ARCHITECTS AND SURVEYORS.

THE VESTRYMEN OF RICHMOND, SURREY, are desirous of obtaining PLANS for laying out and covering with Villa Residences about 20 acres of Land having a frontage of about half-a-mile to the Queen's-road, Richmond, extending from Spring-grove towards Richmond Hill, and within a few minutes' walk of the Terrace there. The Plans will be expected to include the laying out of grounds and suitable offices, but it is not expected nor required that the elevations shall be uniform. — PREMIUMS will be given of TWENTY-FIVE GUINEAS for the most approved plan, and FIFTEEN GUINEAS for the second.—Lithographic plans of the ground and further particulars had on application to Messrs. SMITH and SON, Solicitors, Richmond, to whom the designs are to be sent before the 14th day of August next.

PRIZES IMPORTANT TO INVENTORS AND PATENTEES.

A GOLD MEDAL, value 100*l.* and a SILVER MEDAL, value 50*l.*, will be given by Mr. M. JOSCELIN COOKE. The Gold medal for the best Patent, and the Silver medal for the best Design taken out or Registered at the OFFICE for PATENTS and DESIGNS, 20, Half-Moon-street, between the 1st of November, 1844, and the 1st of June, 1846. The Prizes will be awarded by competent judges on the 10th June, 1846. The conditions to be observed, together with instructions, charges, and every information for obtaining Patents in England or Foreign Countries, or Registering Designs, will be forwarded gratis, on application to Mr. M. JOSCELIN COOKE, at the Office for Patents and Registration of Designs, 20, Half-Moon-street, Piccadilly, London.

WINDOW GLASS, MILLED LEAD, and COLOURS, Pumps, Closets, Pipe, Basins, Brushes, Dry Colours, Ground ditto, and all materials at the lowest wholesale prices for cash.

Crown sqr. not exceeding 12 by 10, 5d. per foot.
Sheet squares, not exceeding 12 by 10, 6d. per foot.

White Lead.	Milled Lead cut to size.
Linseed Oil.	Pan Basins.
Turps.	Plumbing, Brass
Warranted Varnishes.	Work, &c.

Superior Spruce Oker, for Plasterers and Painters, at 6s. per cwt. Gilders, Print Publishers, Picture Frame and Cabinet makers supplied with patent sheet, plate, and sheet, and flatted glass of superior colour, and carefully selected.

SURVEYORS, CONTRACTORS for PUBLIC WORKS, and the TRADE generally, sending specifications of quantities required, will receive by return of post an invoice at the very lowest cash prices. — For complete lists (priced) apply to R. COGAN, 5, Princes-street, Leicester-square, London.

Also may be had, Wholesale and Retail,
LAMP SHADES AND GAS GLASSES.

Gas Contractors, Fitters, Glass Merchants, and others supplied with any description. Lists of nearly 100 patterns, with prices affixed, sent to any part of the kingdom gratis.

CLOCK MAKERS, ALABASTER FIGURE MAKERS, ARCHITECTS, MODELLERS, and others, supplied with FRENCH ORNAMENT SHADES,
for covering Models of Public Buildings, Geological Curiosities, &c., &c., of all sizes and shapes. List of Prices may be had on application. Bee Glasses, Striking Glasses for Nurserymen, Fish Globes and Confectioners' Glasses, &c., of every size and description.

POLONCEAU'S BITUMEN PAVEMENT for paving Foot walks, Terraces, Garden walks, Stables, Coach Houses, Granaries, Corn Stores, and Salt Warehouses. For the exclusion of Damp and Vermin in Basements it is particularly adapted, and for Roofing Dwelling Houses, Porticos, Balconies, and Sheds.

Price 3s. 6d. per square yard.

BITUMEN for covering the Arches of Bridges, Culverts, &c. &c. on Railways and other places (with instructions for laying it down), may be had at the rate of 45s. per ton, by applying to JOHN PILKINGTON, 15, Wharf-road, City-road.

BASTENNE ASPHALTE and BITUMEN COMPANY, Offices, 31, Poultry. The Directors of this Company beg leave to call the attention of ARCHITECTS, BUILDERS, and others, to the very beneficial results attendant on the use of BITUMEN in the erection of buildings, &c. Its application as a FLOORING will be found eminently useful. It is also valuable for numerous other purposes, more particularly where the object sought for is the EXCLUSION OF DAMP AND VERMIN. The Directors beg to refer to the works in Trafalgar-square, which have given general satisfaction. Scale of prices per foot square:—1 inch thick, 8d.; ½ inch thick, 7d.; ¼ inch thick, 6d. Works not measuring 400 feet, 1d. per foot extra. Roofing executed at 6d. and 7d. per foot square. Concrete is charged in addition according to the thickness when required. Carriage and men's time are charged extra when works are executed beyond three miles from the General Post-office. Bitumen £6 per ton, without grit. Bitumen £5 per ton, with grit.

CHARLES F. TILSTONE, Sec.

TO ARCHITECTS.

IN consequence of many complaints having been made to the Company, by Architects, of a spurious material having been used in the execution of Works where the SEYSSEL ASPHALTE had been specified for, the Directors, with a view to ensure the fulfilment of any such specification, have authorized CERTIFICATES to be granted to Builders where the

SEYSSEL ASPHALTE

has been used. For the purpose of securing the use of the Genuine Article, Architects and others are recommended to insert in their specifications the "Seyssel Alphalte, Claridge's Patent," and not merely "Asphalte," or "Bitumen," as in many cases where these terms have been used, gas-tar and other worthless and offensive compositions have been introduced.

I. FARRELL, Secretary,
Stangate, near Westminster Bridge, Jan., 1845. Seyssel Asphalte Company.

Books of Instructions for Use may be had at the Office of "The Builder," and of all Booksellers in Town and Country, price 1s.

*** In proof of the necessity of the above advertisement, it may be mentioned, that it has come to the knowledge of the Directors, that in certain works which have been executed by Messrs. Curtis, builders, of Stratford, a spurious material has been used by them, contrary to the specifications, which expressly mentioned, that "Claridge's Asphalte" was to be used.

In the case of a work at Lewisham executed by MESSRS. ROBERT and DANIEL YOUNG, of 10, Crown-row, Walworth-road, where Seyssel Asphalte was specified for, a spurious article was neverth eless laid down by them.

WESTERN PROVIDENT BUILDING SOCIETY for enabling persons to Build or Purchase Freehold or Leasehold Property on the security of such property. The next Monthly Sale of Shares will be held at the City of Westminster Literary, Scientific, and Mechanics' Institution, 7, Great Smith-street, Westminster, on Wednesday, July 30, at Eight o'Clock precisely. The shares will be put up at 4*l.* premium, and the termination of the Society is fixed by the laws to take place in 1854. Full information may be obtained of Mr. G. DETHRIDGE, 1, Broad Sanctuary, Westminster (opposite the Hospital).

PATENT HANDRAILS. — J. MELVILLE, after upwards of 20 years' experience in the manufacture of the above, can now, with confidence, recommend them to Architects and Builders, combining beauty and durability; avoiding heading joints, and the grain of the wood continued throughout the wreathed or otherwise circular parts. They are now patronised by the most eminent Architects, to whom reference can be given.—Specimens and prices sent to Architects or Builders, in Town or Country. Columns Veneered, Pew Capping, &c.—No. 64, John-street, Fitzroy-square, London.

CAEN STONE.

LUARD and BEEDHAM have a quantity of the above stone, of the best quality, direct from their Quarries at Allemange, which may be inspected at the Norway Sufferance Wharf, Greenwich.—Further particulars at Mr. G. GATES', 18, SOUTHWARK-SQUARE, SOUTHWARK.

CUNDY'S MARBLE AND STONE WORKS, PIMLICO.

SAMUEL CUNDY begs to inform Architects, Builders, &c., that he is supplying
VEIN MARBLE BOX CHIMNEY-PIECES,
Opening 3 feet square, and 7 inch piers, for
FORTY-FIVE SHILLINGS!
STONE BOX CHIMNEY-PIECES, opening 3 feet square, and 7 inch piers, Twelve Shillings; do., do., with MOULDED CAPS, and 8 inch piers, FOURTEEN SHILLINGS.

The above are manufactured in the best manner and of the best material. For CASH ONLY.—Address, SAMUEL CUNDY, Marble and Stone Works, Belgrave Wharf, Pimlico.

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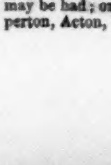

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THE CAUSES of EXPLOSIONS in STEAM-BOILERS, and the prevention of those arising from incrustation, are now lectured upon by Dr. Ryan daily at half-past Three, and on the Evenings of Monday, Wednesday, and Friday at Nine, at the ROYAL POLYTECHNIC INSTITUTION. Professor Bachhoffner, lectures daily at Ten o'clock, and on Tuesday and Thursday Evenings at Nine, on the ATMOSPHERIC RAILWAY, a Working Model of which, carrying visitors, is exhibited daily and in the Evenings. A curious MECHANICAL HAND; new and beautiful Objects in the Chromatrope, Physioscope, Proteoscope, and Dissolving Views. Working Models described. Experiments by the Diver and Diving-Bell, &c., &c.—Admission, One Shilling; Schools, half-price.

IRONMONGERY.

BUILDERS will find it greatly to their advantage to purchase IRONMONGERY of CLUSE and BOSE, 35, City-road (corner of Tabernacle-row, and near Old-street-road).

Best Cut Clasp.

3d.	4d.	6d.	8d.	10d.	20d.
5½d.	7d.	9d.	1s.	1s. 6d.	2s. 3d. per 1000.

Best Cut Floor Brads 10s. per cwt.

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Cottage Ranges with Oven and Back Boiler.

3 ft.	3 ft. 2 in.	3ft. 4 in.	3 ft 6 in.
2*l.* 2s.	2*l.* 3s. 6d.	2*l.* 5s.	2*l.* 7s.

Self-Acting Ranges with Oven and Back Boiler, Bright Fittings and Wrought Bars.

3 ft.	3 ft 4 in.	3 ft. 8 in.	4 ft.
3*l.* 3s.	3*l.* 8s.	3*l.* 15s.	4*l.*

Elliptic Stoves with Inside Backs, 9½d. per inch.
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HIP TILES to suit slate roofs in colour; Ridges, with plain or rebated joints, roll tops, and vertical ornaments; drains, many sizes, with plain or socket joints; paving in squares, hexagons, octagons, &c., different colours; roofing, in Grecian or Italian styles, other devices also, or plain; conduits, which do not injure pure water; fire-bricks and tiles; clinkers, and out-door paving; sundry wall-coping, garden-borders, chimney-tops; also tubular and other flues of peculiar material. No agent, but a depôt at 22, WHITEFRIARS-STREET, FLEET-STREET, LONDON, under Mr. PEAKE'S personal care, to supply genuine TERRO-METALLIC goods at fair prices as per quality; also, additional Stock at No. 4 Wharf, Macclesfield-street, South, City Basin.

The TILERIES, TUNSTALL, STAFFORDSHIRE, are near the centre of England, whence boats are sent direct to any inland place; or to the Mersey for the coasts, the colonies and elsewhere.

AINSLIE'S NEW IMPROVED PATENT DRAIN TILE MAKING MACHINE.—Gentlemen interested in procuring first-rate quality of draining tiles at a cheap rate will find the above worthy their attention. It is portable, can be worked by hand or any power, producing tiles only of first class, and in any number, from 5,000 to 20,000 per day, or in proportion to the power applied. All small stones are crushed in the process, and a constant stream of tiles is kept up. It may be seen daily at the Polytechnic Institution, Regent-street, or at Mr. Howe's, engineer, 119, Guildford-street, Southwark, London. In Scotland, at Mr. Lawrence Hill's, civil engineer, Buchanan-street, Glasgow; Mr. James Slight's, engineer, Curator of the Highland Society, Leith-walk, Edinburgh, where particulars may be had; or from the subscriber, JOHN AINSLIE, Alperton, Acton, Middlesex.